THE ELEMENTARY SCHOOL JOURNAL

VOLUME XXXIV NOVEMBER 1933 NUMBER 3

Educational News and Editorial Comment

THE TRANSFER OF THE FUNCTIONS OF THE FEDERAL BOARD FOR VOCATIONAL EDUCATION TO THE UNITED STATES OFFICE OF EDUCATION

By executive order recently issued, the functions of the Federal Board for Vocational Education have been transferred to the Department of the Interior. Secretary Harold L. Ickes of that department has in turn assigned the functions of the board to the United States Commissioner of Education and has authorized him to reorganize the Office of Education in such a way as to provide for the inclusion therein of the necessary personnel under the board. Hereafter the personnel dealing with the problems of vocational education will be organized as a subdivision of the Office of Education and will be subject to appointment by the secretary of the interior on recommendation by the commissioner of education. Secretary Ickes and Commissioner of Education George F. Zook have announced that a national advisory council on vocational education will be appointed in the near future, the council to be composed of leading and representative persons interested in the development of vocational education.

There can be no doubt that the transfer of the functions of the

Boston University
School of Education
Library

Federal Board for Vocational Education to the Office of Education of the Department of the Interior constitutes a significant forward step in American education. To appreciate fully the significance of this new policy, one must be familiar with certain phases of the development of vocational education in this country during the past two or three decades. At the opening of the present century the chief function of the high school was to prepare for college those youths who expected to enter one or another of the professions. The high school gave very slight attention to subject matter of a vocational nature. Soon social and economic changes in American life began to force into the high schools large numbers of youths who did not expect to go to college or to enter the professions. To the new constituency the traditional literary curriculum of the high school was ill adapted; it neither challenged their interest nor met their needs. The high school was faced with a new social responsibility, which it was sometimes unable and sometimes even unwilling to assume. There was a disposition among a great many conservatives to deny the educational value of practical vocational courses and to insist on the continuance of the traditional literary and mathematics curriculum. On the other hand, advocates of radical reform insisted that the public schools offer opportunities for a great deal of specific trade training, and among the most extreme advocates of vocational education there was a disposition to abandon the literary curriculum and to substitute therefor a series of courses in which practical manual skills were cultivated. Thus, in the attempt to readjust the curriculum to the needs of the new high-school constituency a definite conflict developed between the interests of general education and the interests of vocational education. This unfortunate conflict of interests explains why the Federal Board for Vocational Education was originally organized as a body separate from, and entirely independent of, the United States Office of Education. Since its establishment the board has pursued policies which indicate a certain hostility to general education and an unwillingness to co-operate in a thoroughgoing reconstruction of the curriculum.

The transfer of the functions of the Federal Board for Vocational Education to the Office of Education should, and no doubt will,

make it possible for that office to work out a co-ordinated, balanced educational program which will provide adequate opportunities for both general and vocational training.

SIGNIFICANT NEW EVIDENCE ON INDIVIDUAL DIFFERENCES IN MENTAL GROWTH

For a number of years Frank N. Freeman, Professor of Educational Psychology at the University of Chicago, has been carrying on an investigation of the mental growth of children. Most of the evidence on mental growth has heretofore been based on mass scores from groups of children of different ages. Professor Freeman's investigation differs from earlier studies in that he utilizes the continuous records of one hundred children from childhood to maturity. The results of his investigation do not confirm the findings of earlier studies which indicate that slower children reach the end of their mental growth earlier than do brighter children. Some of the general conclusions of Professor Freeman's study were presented in an article in the September issue of the *Scientific Monthly* under the title "Individual Differences in Mental Growth," from which the following statement is taken.

After a period of ten years a sufficient number of continuous records have been obtained to enable us to throw new light upon some of the problems of individual growth. On the particular problem which I have mentioned, a study of the growth of individual children does not confirm the conclusion from the earlier studies of mental tests that the slower children reach the end of their mental growth earlier than do the faster children. We are not able to report on mental defectives or even on children of low normal intelligence, but we can compare the growth of those who are somewhat below the average with the growth of bright children. We are able to show, for example, that some children, who get a slow start and are near the bottom of the entire group of pupils in the earlier years of the elementary school, continue to advance steadily well into the college period. In other words, there are some individuals who make a rather low standing during childhood because they get a slow start but who rise to a higher level in later adolescence because they continue at a steadier pace than some of those who get an early start.

If this were true only of a few isolated examples, it would not be of great educational importance, since our educational policies must be based upon the majority rather than upon a few exceptions. In order to find out whether such a case is only an infrequent exception or whether it represents the rule, a grouping was made of about one hundred children for whom we had continuous rec-

ords from eleven to sixteen years of age. We also had records on most of these children at ten years and at seventeen years. This entire group was divided into three groups based upon their scores on the test during the middle years. The average curve for each group was then drawn. These average curves indicate that there is a real difference in the mode of development of the bright and the slower pupils. They also show that the popular opinion concerning the growth of bright and duller children is more nearly right than is the opinion of most psychologists.

The children in the bright group begin to advance at an accelerated rate at about ten years of age. Their curve then advances more steeply for two or three years than do the curves of the other two groups. The curve of these bright children, however, begins to slow down sooner than do those of the others. None of the groups reach their complete development by seventeen years of age, so that it is impossible to say how far apart they will be when their growth reaches its final level. By seventeen years of age, however, the upper curve is slowing up, whereas the lower group of children are continuing to advance at an undiminished rate. This makes it seem certain that the pupils in the lower group will partly catch up with those who took the highest rank during the childhood period.

It would be a mistake to infer from these facts that we are unable to predict at all what the child's later mental attainment will be on the basis of his intelligence or his educational achievement in the elementary school or in the early part of the high school. Such prediction is possible, provided we allow a considerable margin of error and also provided we do not discount the possible future development of the pupils who make a moderate record in the early years. Our findings show that these pupils who are at the middle or even below the middle of their class will continue to advance as long as, if not longer than, will the brighter pupils of the class. Some of those who make a relatively poor showing in the earlier years will indeed gain so much on their faster comrades that they will make a decidedly better showing in high school or in college than we might have expected them to make. On the average, of course, pupils in the lower half in the elementary school will remain below in the high school, and few if any of those in the lower quarter are likely to go much beyond the high school; but some pupils in the lower half of their elementary-school classes may in the end outstrip other pupils who outshine them considerably during the childhood period.

In our prediction of pupils' later educational attainments and in our advice to them concerning their educational choices, we must make allowances for this fact and we must also give weight to the factors of character and purpose. We have been too inclined to think that the odds are all in favor of the bright and precocious child. We must now recognize that our prediction is not quite so certain as we thought it was and that the slower child may have possibilities of attainment that we have been inclined to deny him in the past.

WORK RELIEF FOR UNEMPLOYED TEACHERS

Federal Relief Administrator Harry L. Hopkins has authorized state relief administrators to pay work-relief wages to unemployed teachers provided such teachers are employed in rural schools which have been closed or drastically curtailed or provided such teachers are employed either in cities or in rural districts to teach adults who cannot read or write English. The expenditures from relief funds will be confined to the minimum needs of the teachers, and no relief money will be allowed for fuel, textbooks, or other school expense. In a release of the Federal Emergency Relief Administration for Illinois, Mr. Hopkins is quoted as having commented on this new relief measure as follows:

I consider this kind of work relief one of the most constructive applications of the principle of exchanging service to the community for public aid. . . . . The need for relief to teachers is clearly apparent. Thirty-three states have reported through their education officials that approximately 80,000 teachers are unemployed. Some fifteen states have definitely reported shortened school terms, and in some districts this has meant curtailing them to the vanishing point.

While it is most emphatically not the intention of the Federal Emergency Relief Administration to subsidize the school system in any community or to relieve school officials of their responsibility, I believe that the expenditure of work-relief funds in the interests of destitute teachers will result indirectly in great community benefit.

In many rural communities the complete closing of schools virtually means the disintegration of community life for children. No one will ever be able to make up the loss to the children who are deprived of education, for the plastic state of childhood mind comes but once.

Where schools are closed or terms are reduced to a month or two a year, despite increased enrolment, we have a great paradox. It is the expectation of the Federal Emergency Relief Administration that this paradox can be righted, in some part, by permitting the teachers to give their services on the basis of their relief needs.

The full text of Mr. Hopkins' communication to governors and state relief directors follows.

Your relief commission is authorized to use federal relief funds now available or to be made available by the Federal Emergency Relief Administration to pay work-relief wages to needy unemployed teachers or other persons competent to teach and assign them to classrooms up through the eighth grade, provided: first, that these teachers are assigned by the relief offices to appropriate

educational authorities who will have entire supervision over their activities; second, that they are assigned only to those schools which prior to this date have been ordered closed or partially closed for the coming school year because of lack of funds; third, this applies only to rural counties.

State relief administrations are also authorized and urged to pay from above funds relief-work wages to needy unemployed persons competent to teach adults unable to read and write English. This applies to cities as well as rural counties. Under no circumstances should relief funds be used to relieve counties of their proper responsibility for education, nor should these activities permit the substitution of relief teachers for regularly employed teachers.

REORGANIZATION OF UNITS OF ADMINISTRATION IN CALIFORNIA

The following statement by Vierling Kersey, superintendent of public instruction of California, was published in a recent issue of *California Schools*. It indicates that the problem of district reorganization in California will have immediate and positive attention.

For a score or more of years educational leaders, committees of school administrators, and educational associations and organizations have recommended the improvement of California's plan of school districting. The purpose of such recommendation has been to secure improvement in educational opportunity for children, greater economy in administration and instruction, and improvement in the organization and administration of the state school system.

Representative groups of citizens, concerned primarily about school costs and recognizing the possibility of improving the organization and administration of our schools, have gone so far as to present to the legislature what were thought to be completely developed plans for school-district reorganization. In the development of these plans little attempt has been made to secure advice from those most familiar with the problem, namely, the professional educators. Obviously, it is equally as wrong to do nothing about this important educational matter as to permit those with but a partial view of the whole situation to endeavor to deal with the problem by means of compulsory redistricting legislation.

The questions involved are essentially and primarily those having to do with improvement of educational opportunity. Consideration of possibilities for effecting economies is of secondary importance. A review of proposals discussed in the past among educators and of plans submitted to the succeeding legislatures reveals that, in consideration of all the factors involved, really no thoroughgoing study has been made of the problem nor has any consistent endeavor been continuously undertaken to improve the present district organization under existing law.

A review of improvements in the field of educational administration and a study of the record of the schools of California in effecting economies indicates

that, while such further improvements in the plan of administration and such additional economies as may be effected by changes which are possible under existing legislation should be undertaken at once, no attempt should be made to effect a radical change in our system of district organization until after a thoroughgoing study has been made of the entire problem and a complete plan of action has been developed.

Certainly the various proposals that have been offered thus far must be given full consideration. The people of the state, in the last analysis, must decide whether any proposed plan is acceptable, otherwise no plan which may be proposed will be effective.

In order that this major problem may be considered in terms of the educational advantage to be gained for children, the State Department of Education proposes immediate study of the problem by a state-wide committee under the direction of the Department of Education.

GRAND RAPIDS APPLIES A SOUND PRINCIPLE OF ADMINISTRATION

During the past year many boards of education throughout the country have ignored one of the most obvious and, at the same time, one of the most fundamental principles of school administration. That principle is as follows: It is the function of the board of education, as representatives of the community, to determine the amount of money which the community shall spend for public education; it is the function of the superintendent of schools and his professional advisers to determine how the funds shall be spent. If a board of education does not have a superintendent whom it can trust to advise it with respect to the details of school expenditure, the board should secure a new superintendent and not attempt as a body to perform the duties which the superintendent was employed to perform.

The following editorial appearing in a recent issue of the *Grand Rapids Press* describes how the Board of Education of Grand Rapids, Michigan, in putting into effect an economy program, applied this very evident principle of administration.

Grand Rapids citizens may contemplate the reopening of their public schools . . . . with a high degree of pride and satisfaction over the manner in which they are prepared to carry on in the face of adverse circumstances. Teachers have accepted severe salary cuts, and at the same time they will be carrying a heavier pupil load. Several principals will be virtually doubling up on their work. Yet it may be predicted that almost without exception the spirit and morale of the instructors will be maintained and that they will be ready to serve to the full extent of their ability.

We should not lose sight of the fact that an outstanding reason for the maintenance of morale here has been the wisdom of the Board of Education in delegating to educational administrators the task of making adjustments. Board Member Robert H. Merrill's comparison of the local situation with that in Chicago is decidedly to the point.

In Chicago a politically dominated board blunderingly decided to take affairs into its own hands without regard to educational precedent or tradition. At a stroke it abolished junior high schools, turned back the educational calendar, and generally disrupted the established order. A similar process has been followed in many other cities.

In Grand Rapids, on the other hand, an intelligent, non-partisan board said to Superintendent Butler and his assistants: "We have just so much money with which to operate. It's up to you to determine how it will be spent." And the result has been a reorganization of the system in accord with modern educational standards and without the sacrifice of any essentials. The educational administrators have been allowed to solve their own problem to their own satisfaction rather than being forced to swallow arbitrary mandates of those whose knowledge of educational needs could not be equal to that of the educators themselves.

There still will be critics who will declare that this subject or that, this department or that activity, might be dispensed with. There always will be divided opinion on certain matters. But there can be little question but that the policy of permitting the educators to evolve their own program is best from the standpoint of maintaining the co-operation and efficiency of the teaching body. Let the public, through its representatives, decree economies if it must, but let the educators apply them. This the future undoubtedly will reveal as the wisest course.

AUTHORITY OF BOARDS OF EDUCATION TO CONDUCT CAFETERIAS AND TO PREVENT PUPILS FROM LEAVING SCHOOL GROUNDS DURING LUNCH PERIOD

The following decision was rendered recently by the Supreme Court of Nebraska (*Richardson* v. *Braham*, 249 N.W. 557).

This is a suit for an injunction to prevent the board of education, the superintendent, and the principal of the senior high school in the North Platte District from enforcing the following regulation:

"*Be It Resolved*, That the senior high school be and is a one-session school with a lunch period of not more than 25 minutes, and that no students be permitted to leave the school grounds between 9 A.M. and 3:05 P.M., except such students as live quite close to the high-school building, and whose parents request in writing that they be permitted to go home for lunch."

This regulation was adopted by the school board September 5, 1932, and by

its order was enforced for a time by the superintendent and principal of the school. Plaintiffs are parents of pupils.

Prior to the adoption of the regulation, Cora Haffner conducted a cafeteria adjacent to the school grounds, and it was patronized by some of the pupils. For the accommodation of pupils generally, the school district operated a cafeteria in the high-school building. A city zoning ordinance prevented other business enterprises near the school grounds, which were located a considerable distance from the business district of North Platte.

The principal grounds on which the injunction was sought may be summarized thus: mismanagement of high-school cafeteria; meals not warm; food not properly prepared; denials of requests to permit pupils to leave school grounds for noon lunch; interference with prerogative of parents to prescribe diet and select food for their children; enforcing patronage of high-school cafeteria and boycotting Haffner cafeteria; want of power to make the regulation.

The allowance of an injunction was resisted on the grounds that the adoption of the regulation was a proper and valid exercise of administrative power to control the public high school, the high-school property, and the pupils in the interests of public education, public health, public morals and public welfare generally, while the pupils are under the care and subject to the jurisdiction of the board of education, the superintendent, principal, and teachers.

The district court held that the regulation was void and rendered a decree enjoining the enforcement thereof. Defendants appealed.

The validity of the regulation is the question presented by the appeal. Much of the testimony adduced at the trial was directed to the motives of the school directors who adopted the resolution quoted. As a general rule the motives that prompt state law-makers, city councilmen, and members of administrative bodies, such as school boards, in exercising within reasonable limits power committed to them in the interests of the public, are immaterial. Power to act and reasonableness of action are proper tests of the validity of laws, ordinances, and regulations. Promptings of politics or partisanship in the enactment of a statute are not sufficient grounds for judicial interference with an act of the legislature. . . . . Courts do not ordinarily inquire into the motives of a city council in exercising discretionary power. . . . . To overturn a city ordinance on the ground that it is unreasonable and arbitrary or that it invades private rights, the evidence of such facts must be clear and satisfactory. . . . . A regulation by a school board is analogous to an ordinance and is tested by the same general principles. . . . . The wisdom or expediency of a rule adopted by a school board and the motive prompting it are not open to judicial inquiry, where it is within the administrative power of that body. . . . .

The power of the school board to adopt rules and regulations was conferred by statute. The legislature had authority to bestow upon that body control and discretion in the ownership and use of school property. . . . . The legislature authorized the organization of the school district of North Platte with all the

usual powers of a body corporate for public purposes, including the right to hold and control property for school purposes. The school is under the direction and control of the board of education. The school board has power to make rules and regulations, subject to the provisions of the law. . . . . It has been held that parents may make for a child a reasonable selection from a prescribed course of studies. . . . . There is also precedent to the effect that a law forbidding the teaching of any modern language, except English, in any private, denominational, parochial, or public school, to any child in a class below the eighth grade, is void. . . . . During school hours, however, general education and the control of pupils who attend public schools are in the hands of school boards, superintendents, principals, and teachers. This control extends to health, proper surroundings, necessary discipline, promotion of morality, and other wholesome influences, while parental authority is temporarily superseded. Cafeterias are recognized adjuncts to public high schools. Some pupils come long distances and cannot return to their homes for noon meals. Resort of pupils to public eating places in business districts of a city beyond both parental care and the control of teachers may mar the work and defeat to some extent the purposes of public education.

The evidence will not sustain a finding that food furnished at the school cafeteria did not conform to proper standards of food or diet for pupils. Children residing near the school grounds were permitted to return to their homes for their noon meals. Other pupils were not prevented from bringing food from home or from eating in the school building. The evidence does not prove that the regulation was unreasonable or arbitrary or harmful as enforced. A lawful regulation in the interests of the public may lessen the profits of private enterprises and decrease the value of property devoted thereto. A zoning ordinance may have that effect. . . . . This doctrine is too well settled to require extended discussion. The cafeteria adjoining the high-school grounds, though properly conducted, does not have a vested right to the patronage of high-school pupils.

While there may be some diversity of judicial opinion on the subject, the better view seems to be that a board of education having power to make rules and regulations for the conduct and management of public schools may provide for one session daily and forbid pupils to leave the campus during school hours. *Flory* v. *Smith*, 145 Va. 164, 134 S.E. 360, 48 A.L.R. 654; *Christian* v. *Jones*, 211 Ala. 161, 100 So. 99, 32 A.L.R. 1340. The regulation under consideration does not go that far but permits pupils residing near the high school to take their noon meal at home. For the reasons stated, plaintiffs did not make a case for an injunction. The judgment of the district court is reversed and the suit dismissed.

WEEK-DAY RELIGIOUS INSTRUCTION ON RELEASED SCHOOL TIME

In most, if not all, of the states there are constitutional or statutory provisions which prohibit religious or sectarian instruction in

the public schools. In order that parents desiring to do so may arrange for their children to receive week-day religious instruction, it has become the custom in a good many communities to permit pupils to attend week-day church schools during regular school hours. Two pamphlets recently issued by the United States Office of Education should be helpful to superintendents or others who may be interested in conducting or establishing classes for the religious instruction of pupils during school time. The first of these, entitled *Week-Day Religious Instruction* (Pamphlet No. 36), reports the findings of a survey of current practice with respect to week-day religious instruction, the findings being based on replies to inquiries received from 2,043 superintendents of schools in cities and towns having populations of 2,500 and more. The information gained from these replies has been summarized under the following headings: "How General Is the Practice of Releasing Pupils from School To Attend Classes of Religious Education?" "How Long Have School Systems Been Co-operating in These Programs?" "How Are the Classes for Religious Instruction Organized and Administered?" "From What Grades Are the Pupils Released?" "What Proportion of the Public Schools within a City Are Co-operating in the Program?" "Where Are the Classes Conducted?" "Time Allowed for Classes in Religious Education," "Public-School Participation," "How Many Children Attend Classes for Religious Instruction?" "Programs for Children Not Electing Religious Instruction."

The following statement indicates the extent of the practice of releasing pupils from school to attend classes of religious education.

> Reports for this survey from 2,043 towns and cities show that pupils are released from the public schools in 218 cities and towns of 35 states. These 35 states in which the cities co-operating in this work are located represent all sections of the country—6 in the East, 12 in the South, 11 in the Middle West, and 6 in the West. New York has the largest number of the cities, 45 of the 218 reporting classes in religious education; Ohio the next largest with 21; Wisconsin and Minnesota next with 19; Illinois, Indiana, Kansas, and Pennsylvania each has from 10 to 13 cities; Michigan has 8 cities; Oklahoma, 6; Iowa and Utah, 5; Idaho, Kentucky, and New Jersey, 4; Oregon, Rhode Island, and West Virginia, 3; Arkansas, Connecticut, Louisiana, Missouri, North Carolina, South Dakota, Texas, and Virginia, 2; and 1 city in each of the remaining 9 states.

The [accompanying table] shows the representation of cities of all population sizes in this study—the number now carrying on the classes under discussion, the number that have had such classes but have discontinued the work, and the number that have never co-operated in this type of program.

WEEK-DAY RELIGIOUS INSTRUCTION ON RELEASED SCHOOL TIME FOR PUBLIC-SCHOOL PUPILS

Population Size of Cities	Number of City and Town School Systems	Replies Received to Inquiry		Reports of 2,043 School Systems					
				Release Pupils		Discontinued Releasing Pupils		Never Released Pupils	
		Number	Per Cent	Number	Per Cent	Number	Per Cent	Number	Per Cent
100,000 and more.	93	70	75.3	11	15.7	2	2.9	57	81.4
30,000–99,999...	233	174	74.7	24	13.8	11	6.3	139	79.9
10,000–29,999...	672	481	71.6	56	11.6	27	5.6	398	82.8
5,000–9,999....	850	612	72.0	52	8.5	48	7.8	512	83.7
2,500–4,999....	1,316	706	53.6	75	10.6	61	8.7	570	80.7
Total.....	3,164	2,043	64.6	218	10.7	149	7.3	1,676	82.0

The second pamphlet (No. 39) to which reference has been made is entitled *Laws Relating to the Releasing of Pupils from Public Schools for Religious Instruction.* It summarizes statutory provisions, court decisions, and rulings of state attorney-generals with respect to the legal principles involved in releasing pupils from school to attend upon week-day religious instruction. At present seven states (Illinois, Iowa, Michigan, Minnesota, Oregon, South Dakota, and West Virginia) have laws in force which specifically permit the releasing of pupils from public school in order that they may attend religious instruction in churches or church schools. In three states the courts have passed on the legality of this procedure. In Vermont it has been held that a board of education has authority to refuse to excuse pupils from school attendance on certain holy days. In the state of Washington the court refused to require a superintendent of schools to give school credit for Bible study outside school hours although the teachers of the school system were to furnish an outline for the course, give the examinations, and mark the papers. The court reasoned that such a practice would violate

a constitutional provision which prohibited the appropriation of public money for religious instruction "or the support of any religious establishment." Moreover, it was held that the proposed practice would violate the constitutional provision that all schools supported by public funds shall be free from sectarian control or influence. In New York, on the other hand, it has been held that pupils may be excused for thirty minutes in the afternoon one day each week for the purpose of receiving religious instruction in the churches of their various religious faiths.

PRIVATE ELEMENTARY SCHOOLS IN THE UNITED STATES

The United States Office of Education has recently published the following statement with respect to private elementary schools in this country.

In the first study of private elementary education ever made on a nation-wide basis, the United States Office of Education accounts for nearly 2,000,000 pupils in a little less than 7,000 private elementary schools. This figure represents about 80 per cent of the total number of children in private elementary schools, which is estimated to be between two and three million, or one in every ten school children in the United States. Roman Catholic schools register by far the largest number of these, while the non-sectarian schools are next with a total reported enrolment of more than 50,000. . . . .

In 14 states and the District of Columbia private elementary-school enrolment is more than 10 per cent of the total public and private elementary-school registration. New Hampshire and Rhode Island are first with more than 21 per cent each; Massachusetts, Delaware, Connecticut, Wisconsin, and New York have from 14 to 16 per cent; Pennsylvania, New Jersey, Illinois, Ohio, and the District of Columbia have from 12 to 14 per cent; while Maine, Michigan, and Maryland have from 10 to 12 per cent. New York, with 293,337 children reported in private schools, leads all other states in total private elementary-school enrolment. Pennsylvania is next with an enrolment of 254,459.

Ninety-one per cent of all private elementary schools reporting to the United States Office of Education for this study have some religious denominational affiliation or control. Reports from nearly 6,000 Roman Catholic schools in 47 states and the District of Columbia show an enrolment of 1,730,670 pupils. Sixty-one Episcopal schools in 22 states reported an enrolment of 3,716 pupils; 40 Methodist schools in 21 states reported an enrolment of 2,298; 36 Seventh Day Adventist schools in 16 states, 2,269; 31 Presbyterian and 20 Baptist schools in 14 states each, 2,928 and 1,391, respectively. Thirty-five Friends schools in 10 states, reported an enrolment of 4,967 pupils; 15 Lutheran schools in 6 states, 1,462; and 10 Congregational schools in 5 states, 958.

The 592 non-sectarian schools accounted for nearly 3 per cent of all children enrolled in private schools. New York, with 127 schools, Massachusetts with 61, California with 49, Pennsylvania with 48, and New Jersey with 42 were the leaders in the number of those schools reporting.

Much the largest enrolment in the private elementary schools is in the first grade. The next three grades enrol considerably fewer than the first, but the number remains approximately the same through the fourth grade, beginning then a steady decline through the eighth.

Reports show that approximately 60,000 teachers were teaching in private elementary schools in 1930–31. The number of pupils per teacher in all the private schools averages 39. The Roman Catholic schools average a few more than this number, the others considerably below 13 pupils per teacher.

Private elementary schools are generally smaller than are public schools in cities of 10,000 population and more, which enrol an average of 416 pupils. Private elementary schools affiliated with the Roman Catholic church, as reported in this study, enrol an average of 291 pupils, while the other schools reporting enrol an average of only 84 pupils per school.

These private elementary schools have a school year which approximates that of the average public school. In 1929–30 thirty-four states and the District of Columbia reported an average school year in their public elementary schools of 171.8 days. In the same year 775 school systems in cities of 10,000 and more reported an average school year of 186 days. The median school year in private schools falls between these two group averages.

The release also contains the following tabular statement.

Affiliation or Control	Number of Schools Reporting	Total Enrolment
Denominational:		
Baptist	20	1,391
Congregational	10	958
Episcopal	61	3,716
Friends	35	4,967
Lutheran	15	1,462
Methodist	40	2,298
Presbyterian	31	2,928
Roman Catholic	5,954	1,730,670
Seventh Day Adventist	36	2,269
Miscellaneous sects	21	1,502
Non-sectarian	592	50,786
Total	6,815	1,802,947

METHOD IN TEACHING SPELLING[1]

JOHN C. ALMACK
Stanford University

E. H. STAFFELBACH
State Teachers College, San Jose, California

THE VALUE OF METHOD

As soon as a suitable body of words has been selected, spelling efficiency becomes, to a great degree, dependent on the method of teaching and study. Hilderbrant (6)[2] says that there are probably no "born spellers" and that persons who spell well do so because they have adequately directed their word experiences or their word experiences have been well directed by a teacher. Their attention has been called early in life to the correct arrangement of letters in words, and they have had adequate practice in using these words in practical written discourse.

The view has been advanced now and then, however, that children learn to spell "incidentally," that is, without specific instruction in the subject. To illustrate, a pupil who is taught to read and who, in learning to read, also learns to spell has learned spelling "incidentally." Evidence favoring "incidental" teaching of spelling rests on comparisons of results obtained under *poor* direct teaching and *good* incidental teaching in connection with reading and composition. It is not surprising that poor direct teaching does not yield good results. However, when incidental teaching is matched against good direct teaching, the results are uniformly favorable to the latter. Thompson estimates this gain at double the gain "to be expected as a function of general maturity and incidental learning" (18: 71).

The problem in teaching spelling is not to choose between *no method* and the *best method* but rather to choose the *best method* from the

[1] This is the first of a series of three articles dealing with the teaching of spelling which are to appear in the *Elementary School Journal*.

[2] The numbers in parentheses refer to the bibliography appearing at the end of this article. In case of quotations page references are also given.

many methods offered. The term itself ("method") is derived from the Latin *methodus*, which comes from the Greek *methodos*. In the Greek word, *met* means "after" and *hodos* "a way"; thus "method" indicates a general or an established way or order of doing anything. True method or *best* method has its basis in science; that is, it has been *proved* best. A person who is very skilful is sometimes said to be scientific and may be called "an expert." The value of method in spelling is the value of expert method in any other aspect of life. It gets the best results in the quickest possible time and in the most agreeable and beneficial way.

Poor progress in spelling may result from lack of study technique on the part of pupils. Gilbert (4) examined the eye-movements of a group of sixty-seven children made up of good spellers and poor spellers. Among the poor spellers he found many fixations, long and irregular pauses, and lack of systematic procedure. These pupils studied by small sections, going over and over the same ground, seeing many minute and unrelated details, but failing to grasp the word as a whole. In contrast, the good spellers studied each word as a unit or as a whole made up of related parts. The typical record of a good speller showed a relatively small number of fixations in orderly arrangement with few regressions. The pauses were short, and the unit grasped was broad.

The value of method in spelling was also demonstrated by Fulton (2). Her experimental group followed systematic method; her control group was given no study directions. The difference in method was the sole difference in the two groups. In the final test the experimental group spelled correctly an average of 98 per cent of the words; the control group, 73 per cent. In a retention test given three weeks later the experimental group averaged 96 per cent; the control group, 68 per cent. Every pupil in the experimental group did better than any pupil in the control group.

THE BASIS OF METHOD IN SPELLING

The science of biology (or of its derivative, psychology) supplies the basis of spelling method. Children learn to spell by seeing the letters of a given word or by hearing their sounds and by writing and speaking the letters in the order in which they are seen and heard. Seeing and hearing are forms of "impression"; writing and speaking

are forms of "expression." These two form the bases for four kinds of images: (1) the sight of a word, (2) the sound of a word, (3) the way it "feels" when written, and (4) the way it "feels" when spoken (17: 109).

Studies have been made to determine the share which sight, hearing, speech, and writing have in developing the ability to spell. Almost without exception, these studies show that the motor presentations which occur through the activity of the hand and the vocal organs are of great importance and that *the eye is far more important than the ear*. Gates and Chase (3) found that deaf children were superior in spelling to normal children of the same reading age. They considered this superiority a result of the more careful visual study of word forms.

Kellner, as cited by Burnham (1: 480), distinguished between the spelling of those words which are written as they are pronounced and the spelling of non-phonetic words. He considered the ear the supreme judge in spelling phonetic words; there the rule is, "Write as you speak." For non-phonetic words that vary in form from their sounds, the eye should be chiefly active, and the rule is, "Write according to the custom."

For thirty years the leading authorities in spelling have maintained that the muscle sense of the hands and the speech organs should go along with sight and hearing. These sense perceptions play the significant part in the comprehension, the retention, and the reproduction of words. Oral spelling may be rejected altogether in favor of exercises in writing words. This point is well made by Burnham (1). It is in the writing of words that the real test of ability comes. Forming motor images by writing produces fewer errors than are produced when visual imagery alone is used. *Writing is better than seeing.*

Smedley (15) says that the aim in teaching spelling should be to render so well known the most frequently used words that they will flow automatically from the point of a pen (or from the keys of a typewriter), requiring but little thought for their formation. He stresses the fact that the spelling of words is rendered automatic by writing them. The first acquaintance with a word may be through hearing and seeing, but the teaching for final retention should be through audio-visual-hand-motor memory.

In class study new words should be seen, heard, pronounced, and written. One type of association reinforces the other. Since writing involves both visual and kinaesthetic sensations, it is more effective than seeing, hearing, or speaking alone. It also has the advantage of being the form in which spelling functions in life. Doubtless there are children who do not need to do more than to write many words in order to master their spelling; yet the more complete method of presentation is better for most children and makes for retention in all (**6**: 381).

GENERAL METHOD OF TEACHING SPELLING

Two statements have already been made about spelling method: (1) that the best method is scientific and (2) that psychology is the basis of method. These statements are perfectly consistent because psychology is a branch of science. Scientific method has two main divisions. The first of these starts with a *problem*, goes next to facts, and from facts to a generalization which describes the facts and solves the problem. The proof of the generalization is tested by trying it out. One in possession of the proper, tested generalization can control results. His teaching is certain; it cannot fail. The second division of scientific method starts with an *objective*, goes to a plan or program consisting of a number of activities in definite order and of definite time duration, and ends with results. This division is called applied science. It is that part of scientific method in which the controlling generalization is tried out. It is to this division that spelling method properly belongs. Its controlling principles are those which arise from the science of psychology.

Three stages in the process of applied science may be observed: *planning*, *doing*, and *evaluating*. In the planning stage the teacher and the pupils select their objective and justify it (motivation). They next make an estimate of the situation, which includes an inventory of their own knowledge and skill, and indicate a standard which they expect to attain. Then they proceed to lay out a time schedule, adopt a technique, demonstrate that they can use the approved technique, and are thus ready to begin their task.

In the doing stage each pupil puts into effect the procedure which has been planned. At the end of the time period the results are measured and compared with a standard. If the results are not sat-

isfactory, one of two things may be done: (1) The process may be continued until the goal is reached. (2) A diagnosis may be made and the process altered entirely or in part.

In the evaluating stage the final results are compared with the accepted standard. The process is also examined critically, and suggestions for its improvement are made. Effort is made to find the difficulties of pupils and to understand why the difficulties exist. Methods for overcoming future difficulties are devised. Additional work toward the objective may be required by going over the process or parts of it, by adding to the materials to be taught, or by modifying the process and attacking the objective in a new way.

Most of the emphasis in teaching method is rightly put on the doing stage. The work should be systematic and may in general, when applied to spelling, follow directions such as these:

> First, the attention of the children is called to the whole word on the board or in the book. The word is pronounced by the teacher and, if quite unusual or unfamiliar, by the children. The word is used in a sentence or defined. The teacher writes the word on the board in syllables. . . . . The children are told to look away from the word and try to see it as it looks on the board. The word is spelled orally by individuals or by the class under controlled conditions. In either case oral spelling is preceded by a clear and accurate pronunciation of the word. Finally, the word is written several times [19: 71].

The plan described in the Eighteenth Yearbook of the National Society for the Study of Education (7) has been widely used. It begins with a pretest on Monday over the list prescribed for the week. On Tuesday the pupils study the words which they missed the previous day, the teacher directing their activity as necessary. Wednesday is devoted to retesting and to review and drill. Special attention is given on Thursday to individual difficulties. The unit is completed on Friday with a retest, usually in the form of timed sentences.

This system is methodical. Pupils are not called on to give unnecessary time to words which they already know, and the teacher is given opportunity to direct study and to discover special difficulties. The method also has its disadvantages. Nearly all the emphasis is put on spelling as such; that is, in getting the right letters in the right order. Little stress is placed on pronunciation or use. The plan is also somewhat over-formal. Every day has its assigned task;

every week a unit must be completed. This plan assumes that the units are of equal difficulty and demand the same time distribution week in and week out. It assumes uniform effort and response on the part of the pupils week after week. There is little or no chance for a teacher to introduce desirable variations in order to increase interest and to develop initiative. It is an inflexible plan, not in accord with modern theories of child freedom and self-activated instruction. It puts too much emphasis on group testing and not enough on individual learning.

The writers are not disposed to question the value of testing before teaching. Experiments have been made to determine whether it is more effective to test first and then study or to study first and then test. Without exception, these experiments show the superiority of the test-study plan. Kilzer (9) supplies typical proof. In a study of one thousand pupils in thirty-four schools in eight states, he found the test-study method significantly better than the study-test method. The number of misspellings were appreciably fewer in the test-study plan—about seventeen less on a hundred words.

Senour (14) also shows that satisfactory results can be obtained with the test-study method. His subjects were 694 pupils in Grades III–VIII. While the children did not attain complete mastery, their scores were close to perfect. At the end of one month they retained 94 per cent of the words; at the end of four months, 92 per cent.

Kingsley (10) furnishes definite support for the test-study method. As the result of two years' experience he says, "Fifty-five per cent of the pupils missed no words; 25 per cent missed one word; 10 per cent missed two words; 5 per cent missed three words; 1 per cent missed four words; and 1 per cent missed five words." He concludes that "to ask these pupils to spend a fifteen-minute study period on the lesson, before testing, would be to waste nearly 95 per cent of the time and, in some cases, actually to reduce the spelling ability. For a class of 30, figured as a business manager keeps time, 425 minutes of the aggregate 450 made no return" (10: 128).

The subject of spelling method has been well summarized by Zyve (21). She recommends teacher-directed study, the use of both lists and sentences in presenting words, visual aids, teacher-directed

review, and a time allotment of fifteen minutes daily for new words. She considers indispensable a variety of approaches—visual, auditory, motor. Her final plan continues the formal organization of materials on daily and weekly bases.

Excellent criteria for judging spelling method have been set up by Zirbes (20). She declares:

> Any spelling method which does not meet the following requirements does not qualify for wide use: (*a*) The method must reach the individual poor spellers and raise the quality of their spelling markedly by every test. (*b*) The method must be practical and economical of time and labor. . . . . (*c*) The method must take into account the necessity for later recall of words with definite review or relearning. . . . . (*d*) The method must appeal to the responsibility of the pupil, enlist his best efforts, and develop his spelling conscience [20: 784–85].

GROUP METHOD VERSUS INDIVIDUAL METHOD

The question has often been raised whether it is more effective to teach several individuals simultaneously (the group method) or to teach individuals independently of each other. The group method doubtless represents common practice, while the growing tendency is toward the independent plan. It does not follow that either method should be followed exclusively; common sense inclines to the view that each has a place. The question really is: Which method should predominate and what is the proper place of each?

A clear description of the group method has been published by Keener (8: 31–32), a summary of which follows.

> 1. The teacher writes the word to be studied on the board. She pronounces the word distinctly, sounding each syllable. The meaning is next explained, and the word is used in a sentence. The teacher next spells it orally, noting the division into syllables.
>
> 2. The word is next spelled with the pupils in concert, and attention is called to difficult parts. The word is then erased from the blackboard, and the pupils write it on paper. The teacher then spells the word orally, and the pupils check their spelling.
>
> 3. After all the words have been studied in this way, the pupils are tested. Each pupil keeps a list of the words that he missed. The study of these words is directed for each pupil independently. At the end of the week the pupils are tested over all the words they have been taught during the week.

Keener likewise gives the characteristics of the individual method (8: 32). A summary of his description is as follows:

> 1. The pupils are first tested on twenty words. Each pupil keeps a list of the

words that he missed, and these words become his individual study lesson for the week.

2. Each pupil is trained to study his own lesson by (*a*) pronouncing the words in a whisper, (*b*) learning the meaning, (*c*) using the words in sentences, (*d*) spelling the words in a whisper, (*e*) checking his spelling against the correct forms of the words, (*f*) writing the words on paper, and (*g*) repeating the process until sure of the spelling of each word.

3. As a final step, the pupils are tested individually over their lists, and a second list of words missed is kept. These they proceed to study as before, together with words missed in other subjects.

As a result of an experiment to determine which method is the better, Mr. Keener found individual instruction slightly superior "when all grades were combined." This superiority existed even when "teachers were more skilled in using the group method" (**8**: 35). When one teacher taught first one method and then the other, she was more successful with the individual plan. The testimony of the teachers was markedly in favor of the individual method. The author advises this method, particularly for Grades IV–VIII.

Keener's findings failed to substantiate the earlier study of Pearson (**13**). The latter conducted four experiments in Grades IV, V, and VI "to compare the effectiveness of a series of recitations of the customary or independent type with a series of the class-study type" (**13**: 50). In three experiments he found the class method to be superior. In his fourth experiment he allowed fifteen minutes a day for class study and twenty-five minutes a day for individual study. Despite the larger time allowance for the individual plan, he found "that the class-study method was about as efficient as the independent-study method" (**13**: 66).

The writers of this article make no attempt to reconcile or to explain these differences. Learning is individual, and the best method has been found when conditions are set up in which each pupil has the most favorable opportunities to learn what he does not know and should know. The time factor should necessarily be considered, and the matter of retention or permanence should not be overlooked.

Time may often be conserved by teaching the class as a unit, but in the last analysis each pupil should know how to work effectively when working alone. A system which integrates the two plans and

takes the best of both seems most promising. In any event the teacher should be free to vary the method from day to day as the pupils' needs demand and to vary at will the relative emphasis put on each plan. Common needs may be met economically by class teaching; individual needs may be best served when the pupils work independently of each other under the direction of the teacher.

SPECIFIC ILLUSTRATIONS OF SPELLING PRACTICES

Approved procedures may be further illustrated by referring to specific practices. Mearns (12) reports on a method in which improvement was significant and in which wide distribution disappeared and there were no "poor spellers." The main steps in his plan included (1) selection of a tested, socially useful list of words, arranged in the order of grade difficulty; (2) dictation of a small portion of the list as an inventory test; (3) a pupil check on errors from the teacher's oral spelling; (4) pupil recording of individual errors; (5) pupil study of misspelled words only; and (6) teacher dictation to test retention, followed by the repetition of the third, fourth, and fifth steps.

The class method used at Amsterdam, New York, has been described by Springsteed (16). The teachers employ the test-study plan. The words are first dictated. Each pupil then checks his own work against the list which has been put on the blackboard. He draws a line through every word which he has misspelled and then writes out the correct form. The meanings of the words are next taught. The pupils then study their own lists. The individual plan as used in the same school system is also described. The pupil pronounces the first word on his personal list and acquaints himself fully with its meaning. He then spells it orally, checks his spelling against the correct form, and repeats the word four or five times until he is sure that he knows it. His next act is to write the word, repeating this act until it becomes automatic. The teacher gives special help to pupils having difficulty.

The work of Miss Martin (11) may be cited as a final example of modern practice. She made assignments over an extended period of time and required the careful use of uniform record books. One day a week was set aside for review and trial lessons. Most of the stress was put on teaching rather than on testing, and the problems of

each child were considered individually. Class and individual records were charted and kept in view. The children were encouraged to surpass their own past records. Interest was kept up by varying the kinds of activities.

A difference of opinion exists as to the wisdom of calling the attention of the pupils to difficult parts of words. Miss Springsteed opposes the practice because "the type of error made by pupils varies to such an extent that common study to avoid certain errors is unwarranted" (**16**: 294). Guiler (5) recommends analysis of difficulties in order that the teacher may know where to focus attention. The practice is in the direction of marking the difficult parts, but the value of this procedure has not been proved experimentally. Probably the procedure is of minor importance, occasionally effective and at times of no value. The teacher must decide whether or not to use it as she thinks best in a particular situation.

This discussion may be brought to a close by saying again that systematic method in teaching spelling adds greatly to results. The method has been well formulated. It makes appeal to sight and to hearing and requires directed expression in speaking and writing. Pretesting is essential in order that no time may be lost in the study of what the pupils already know. Common needs should be cared for by teaching in groups, but the greatest economy comes from teaching in terms of individual needs and through independent activity.

BIBLIOGRAPHY

1. BURNHAM, WILLIAM H. "The Hygiene and Psychology of Spelling," *Pedagogical Seminary*, XIII (December, 1906), 474–501.
2. FULTON, MARTHA J. "An Experiment in Teaching Spelling," *Pedagogical Seminary*, XXI (June, 1914), 287–89.
3. GATES, ARTHUR I., and CHASE, ESTHER HEMKE. "Methods and Theories of Learning To Spell Tested by Studies of Deaf Children," *Journal of Educational Psychology*, XVII (May, 1926), 289–300.
4. GILBERT, L. C. "Experimental Investigation of a Flash-Card Method of Teaching Spelling," *Elementary School Journal*, XXXII (January, 1932), 336–51.
5. GUILER, WALTER SCRIBNER. "Improving Ability in Spelling," *Elementary School Journal*, XXX (April, 1930), 594–603.
6. HILDERBRANT, EDITH L. "The Psychological Analysis of Spelling," *Pedagogical Seminary*, XXX (December, 1923), 371–81.

7. HORN, ERNEST. "Principles of Method in Teaching Spelling as Derived from Scientific Investigation," *Fourth Report of the Committee on Economy of Time in Education*, pp. 52–77. Eighteenth Yearbook of the National Society for the Study of Education, Part II. Bloomington, Illinois: Public School Publishing Co., 1919.
8. KEENER, E. E. "Comparison of the Group and Individual Methods of Teaching Spelling," *Journal of Educational Method*, VI (September, 1926), 31–35.
9. KILZER, L. R. "The Test-Study Method versus the Study-Test Method in Teaching Spelling," *School Review*, XXXIV (September, 1926), 521–25.
10. KINGSLEY, JOHN H. "The Test-Study Method versus the Study-Test Method in Spelling," *Elementary School Journal*, XXIV (October, 1923), 126–28.
11. MARTIN, GERTRUDE E. "The Teaching of Spelling," *Elementary School Journal*, XXI (November, 1920), 201–7.
12. MEARNS, HUGHES. "A Report of a Specific Spelling Situation," *Teachers College Record*, XXVI (November, 1924), 220–29.
13. PEARSON, HENRY CARR. "Experimental Studies in the Teaching of Spelling," *Teachers College Record*, XIII (January, 1912), 37–66.
14. SENOUR, A. C. "An Investigation of the Effectiveness of the Test-Teach-Test Method of Instruction in Spelling," *Elementary School Journal*, XXX (May, 1930), 700–706.
15. SMEDLEY, FRED WARREN. *Report of the Department of Child-Study and Pedagogic Investigation, 1900–1901*, p. 63. Child-Study Report No. 3. Chicago: Chicago Public Schools, 1902. Quoted in William H. Burnham (1: 485).
16. SPRINGSTEED, CLARA B. "How One City Improved the Teaching of Spelling," *Journal of Educational Method*, IV (March, 1925), 290–95.
17. SUDWEEKS, JOSEPH. "Practical Helps in Teaching Spelling: Summary of Helpful Principles and Methods," *Journal of Educational Research*, XVI (September, 1927), 106–18.
18. THOMPSON, ROBERT S. *The Effectiveness of Modern Spelling Instruction.* Teachers College Contributions to Education, No. 436. New York: Teachers College, Columbia University, 1930.
19. TIDYMAN, WILLARD F. *The Teaching of Spelling.* Yonkers-on-Hudson, New York: World Book Co., 1919.
20. ZIRBES, LAURA. "An Experimental Evaluation of Method in Spelling," *Elementary School Journal*, XIX (June, 1919), 778–98.
21. ZYVE, CLAIRE TURNER. *An Experimental Study of Spelling Methods.* Teachers College Contributions to Education, No. 466. New York: Teachers College, Columbia University, 1931.

FACTORS RELATED TO THE GRADE PROGRESS OF PUPILS

EUGENE S. FARLEY, ALBIN J. FREY, AND GERTRUDE GARLAND
Public Schools, Newark, New Jersey

Progress through the grades is one of the most serious aspects of the school life of a child. In spite of its seriousness, it has only recently gained significant recognition because, before the development of child-accounting techniques, there were no adequate means of centering attention on this problem. In recent years, however, considerable attention has been given to the study of the grade progress of pupils, and this study has revealed the importance to the child of continuous progress through the grades. Investigations of truancy have shown that a large portion of truants have been required to repeat grades. Failure and repetition of work are also frequently associated with social maladjustment and the development of undesirable attitudes toward the school. It is natural, therefore, that truancy should result from excessive retardation.[1] Certain studies have indicated that retardation may have an undesirable effect on the achievement of pupils. A recent report from Philadelphia suggests that repetition of grades more frequently causes reduction than acceleration in the rate of achievement.[2] It has also been shown that the child who is retarded in his grade progress tends to leave school at an earlier age than does the child who makes normal progress through the grades.[3] These facts indicate that grade progress is of considerable importance to the individual child, and they reveal the

[1] Edna Willis McElwee, "Study of Truants and Retardation," *Journal of Juvenile Research*, XV (July, 1931), 209–14.

[2] A study made by W. Walker Cheyney and Philip A. Boyer and reported in mimeographed form. Extracts quoted in *Elementary School Journal*, XXXIII (May, 1933), 647–51.

[3] *Five Unifying Factors in American Education*, pp. 189–99. Ninth Yearbook of the Department of Superintendence. Washington: Department of Superintendence of the National Education Association, 1931.

need for a greater knowledge of the causes and the consequences of retardation.

In an attempt to determine those personal qualities that are associated with retardation and acceleration in grade progress, all twelve-year-old pupils in two Newark schools were examined to determine their mental ability, achievement, health, school attendance, social status, and character traits. There were in the two schools 193 twelve-year-old pupils enrolled in Grades IV–VIII. All these pupils were given the Otis Self-administering Tests of Mental Ability and the Stanford Achievement Tests in reading and arithmetic. They were also scored on the Sims Score Card for Socio-economic Status. They were given careful physical examinations by the school physicians and were rated by their teachers on selected character traits. The data relating to each of these qualities or conditions were studied in relation to the grade placement of the child. These data were divided into groups on the basis of the grade placement of the pupils, and the scores or ratings for each group were distributed and studied. The correlations between these ratings and grade placement were also determined.

MENTAL ABILITY AND GRADE PLACEMENT

As would be expected, the data showed a close relation between mental ability and grade placement. The correlations between mental age and grade placement were $.77 \pm .025$ in School 1 and $.72 \pm .034$ in School 2. Table I shows that in both schools the median mental age increased with the grade placement. In School 1 the median mental age ranged from eight years and ten months in Grade V to fourteen years and nine months in Grade VIII; in School 2, from eight years and five months in Grade IV to thirteen years and eight months in Grade VIII. Because all pupils were of approximately the same chronological age, the relations between intelligence quotient and grade placement were almost identical with the relations between mental age and grade placement. The median intelligence quotient rose with the grade placement of the pupils in both schools, and the correlations between these two factors were $.75 \pm .027$ and $.69 \pm .038$ in School 1 and School 2, respectively.

These facts indicate that, on the whole, these pupils were fairly

well placed in relation to their mental ability. There were exceptions, however. Three children in Grade VI in one school had mental ages above those of nine pupils who were in Grade VIII. Four fifth-grade pupils in the other school had mental ages above those of eight seventh-grade pupils, and the mental ages of the four fifth-grade pupils were as high as those of five pupils in Grade VIII. Several of the pupils in the lower grades with high mental ages also made higher achievement scores in reading and arithmetic than did

TABLE I

MEDIAN MENTAL ABILITY OF 193 TWELVE-YEAR-OLD PUPILS IN GRADES IV–VIII IN TWO SCHOOLS

GRADE	NUMBER OF PUPILS		MEDIAN MENTAL AGE IN YEARS AND MONTHS		MEDIAN INTELLIGENCE QUOTIENT	
	School 1	School 2	School 1	School 2	School 1	School 2
IV	0	2	.....	8–5	.....	67.5
V	15	14	8–10	9–8	71.9	76.3
VI	17	31	11–7	10–10	93.8	86.5
VII	45	24	12–3	13–0	99.3	106.3
VIII	32	13	14–9	13–8	116.8	110.6
All grades	109	84	12–8	11–6	100.0	92.9

pupils in higher grades. These facts indicate the need for accurate information and careful consideration of individual cases when grade placements are determined.

ACHIEVEMENT AND GRADE PROGRESS

The Stanford Achievement Tests in reading and arithmetic were used to determine the relation between achievement and grade placement. The results of these tests showed a relation similar to that existing between mental age and grade placement. In one school the correlations between grade placement and both arithmetic and reading were slightly higher than the correlation between grade placement and mental age, but the situation was reversed in the other school. Although there was little difference in the correlations for reading and arithmetic in either school, the slight difference that existed favored arithmetic. This fact indicates that in these schools

arithmetic served as a determiner of grade progress to a slightly greater extent than did reading. In School 1 the correlation between grade placement and arithmetic was .72±.031; between grade placement and reading, .71±.031. In School 2 the correlations were .79±.026 between grade placement and arithmetic and .73±.033 between grade placement and reading.

The median achievement scores for the five grades, which are given in Table II, also indicate a close relation between achievement

TABLE II

MEDIAN ACHIEVEMENT IN ARITHMETIC AND READING OF 193 TWELVE-YEAR-OLD PUPILS IN GRADES IV–VIII IN TWO SCHOOLS

Grade	Number of Pupils		Median Arithmetic Age in Years and Months		Median Reading Age in Years and Months	
	School 1	School 2	School 1	School 2	School 1	School 2
IV	0	2	.....	9–6	.....	9–11
V	15	14	10–11	10–0	9–8	10–3
VI	17	31	12–6	11–8	11–3	11–5
VII	45	24	12–8	12–8	12–8	12–5
VIII	32	13	14–6	15–1	15–1	14–11
All grades	109	84	12–11	11–10	12–8	11–8

and grade. The median scores increase with the grade. Although there was a close relation between achievement and grade progress, the same glaring discrepancies appeared which were found in the case of mental age and grade placement. Twelve-year-old pupils were found in the lower grades whose achievements were superior to those of pupils in the higher grades. In one school the reading-achievement scores of five sixth-grade pupils were superior to those of nine pupils who were in Grade VIII.

Apparently ability and achievement were the chief bases of grading pupils in these schools, but there were instances in which some other factors had evidently determined the grade placement, as is illustrated by the case of two twelve-year-old pupils in one of the schools. A boy with a mental age of 15–8, a reading age of 14–4, and an arithmetic age of 16–3 was in Grade VI A, whereas a girl with a

mental age of 14–2, a reading age of 13–11, and an arithmetic age of 13–11 was in Grade VIII A. The boy was in every instance considerably superior to the girl, although he was placed two grades below her.

HEALTH AND GRADE PROGRESS

The influence of health on school progress was determined by physical examinations. The children were weighed and measured, and their hearts, lungs, eyes, ears, and teeth were examined by school physicians. The results showed no significant relations between school progress and weight and height. The correlation of weight with school progress was $.12 \pm .07$, and there was less than two pounds difference in the median weight of fifth-grade and eighth-grade pupils. The two pupils who were in Grade IV, however, were considerably lighter than the average twelve-year-old pupil. One was ten pounds and the other eight pounds below the median for twelve-year-old children. Although in every other respect their health records were excellent, the great differences in the weights of these two children suggest that physical condition may have affected their school progress.

The data revealed no relations between school progress and hearing, vision, heart, glands, teeth, or the condition of the nervous system. Most of the pupils had good health records regardless of their grade placement.

ATTENDANCE AND GRADE PROGRESS

School attendance was but slightly related to grade progress. The children in Grade V of one school had been in school for an average of 12.5 terms; those in Grade VI, 14 terms, and those in Grade VII, 14.7 terms. In these three grades the grade placement increases with the number of terms attended. The children in Grade VIII, however, had attended school for an average of only 13.9 terms, or less than the average number of terms attended by children in two of the lower grades. The figures for the other school show these same trends. These data suggest that the number of terms in school affects grade progress only to a certain point and that superior ability or opportunity may modify the effect of school attendance on grade progress.

The number of terms during which these children had attended

each of the two schools was studied in order that any possible relation between constancy of attendance in a single school and grade placement might be discovered. In one school there was a negative relation: the higher the grade, the less the number of terms spent in that school. The other school showed a positive relation: the greater the number of terms spent in that school, the higher the grade placement. These contrasting facts reveal that different policies control grade progress in these two schools and in the contributing schools.

The relation between grade placement and the average number of days attended during the preceding three years was also studied. The results showed that attendance was slightly better in the higher grades, although there was no great difference in the attendance records of retarded and accelerated pupils.

SOCIO-ECONOMIC STATUS AND GRADE PROGRESS

Both schools showed some relation between socio-economic status and grade progress. The relation was not clear cut, however, and it appeared that many other factors could readily overcome the influence exerted by material environment of the home. Then, too, it is doubtful whether a great deal of confidence can be placed in the results of the Sims score card. In several instances brothers and sisters living in the same home secured scores that differed considerably. Either these children answered questions carelessly or without understanding, or they deliberately misrepresented the home conditions.

CHARACTER AND GRADE PROGRESS

An effort was also made to determine the relations between grade progress and selected character traits. Teachers rated each of the pupils on a five-point scale in honesty, personal appearance, initiative, industry, and attitude. The character traits were rated subjectively on the following basis: A = unusual, B = above average, C = average, D = below average, and E = outstanding deficiency. Because of the crudeness of the ratings, it was impossible to secure correlations or to judge the relations by means of the medians for each group. It was decided, therefore, to determine the percentage of pupils in each grade who were given ratings of A and B on each of the selected character traits. These percentages, given in Table III, indicate some re-

lation between character traits and grade placement. Pupils enrolled in the upper grades were given high ratings in greater numbers than were pupils in the lower grades. The relation was not clear cut, however, as the fifth-grade pupils secured high ratings with greater frequency than did sixth-grade pupils. This result may indicate a more liberal rating on the part of the teachers of Grade V, or it may indicate that there was no relation between character traits and grade placement. It is likely that a policy of liberal rating by the

TABLE III

PERCENTAGES OF PUPILS RATED IN GRADES V–VIII OF TWO SCHOOLS TO WHOM TEACHERS GAVE RATINGS OF A AND B IN FIVE CHARACTER TRAITS

Grade	Attitude toward School	Honesty	Initiative	Industry	Personal Appearance
School 1:					
V.....	29	57	7	29	29
VI.....	24	29	24	24	24
VII.....	39	32	32	27	40
VIII.....	66	81	56	63	75
School 2:					
V.....	21	21	21	21	14
VI.....	19	19	16	22	16
VII.....	71	83	17	50	46
VIII.....	62	85	31	54	46

teachers in Grade V accounts for the high ratings of the pupils in that grade, since in Grades VI, VII, and VIII there is a tendency for good ratings to increase with the grades.

SUMMARY

The study shows a definite relation between the grade progress of pupils and ability and achievement. It also indicates that a number of pupils were not correctly graded if achievement and ability are considered the proper basis for grade placement.

The data of this study show no significant relation between grade placement and health or socio-economic status. This lack of relationship may be caused by certain weaknesses in the data, or it may indicate that these factors are overshadowed in importance by intelligence and character traits.

Although the study shows some relation between grade progress and character ratings, it does not show the cause of this relation. It may be that poor character traits handicap the progress of children, or, on the other hand, it may be that retardation has encouraged the development of undesirable traits. There is a probability that poor character traits are both a cause and a consequence of retardation. A poor attitude toward the school or a lack of industry is frequently responsible for the repetition of a grade. On the other hand, repetition may result in discouragement and a sense of failure that will breed undesirable attitudes, discourage industry, and kill initiative. In spite of the fact that the exact relations between traits and grade progress are not shown, the very suggestion of a relationship merits the consideration of character in the determining of promotional policies. If grade failure and retardation have an adverse effect on character development, careful consideration must be given to every pupil failure lest character be sacrificed in order to maintain high standards of achievement.

To insure the best possible adjustments when making grade placements, school administrators must decide every case on its own merits. Social adjustments, health, and character development should be considered in connection with achievement and ability, and every effort should be made to secure the best possible adjustment for each child.

SCALING AND IMPROVING THE LESSON ASSIGNMENT

CYRUS D. MEAD
University of California

Perhaps nothing serves to recall more vividly school days long past than does the "home-work assignment," which was more or less conscientiously attempted on the part of those who now, as parents, deplore the looseness and the lack of thoroughness of the "new school." How simple the old assignment! With what verve and dash and abandon the teacher would make such assignments as these: "The next three pages." "Sections 4, 5, and 6 for the next time." "Go on with what you are doing, but know more about it tomorrow, more about the Constitution." The claim might be made that there is no truer index, in brief, of the good (or poor) teaching of the "good old school" than the teacher's assignment of the lesson.[1]

The new school has certainly wrought changes in the lesson assignment, although the assignment has by no means been discarded. One might be justified in stating that progressive ideas and methods in general have really dignified an old technique and discipline. "Contracts," with very definite bills of particulars to be mastered, are now accepted by the pupil. "Outlines" or "unit plans" guide the class through larger groupings of materials. "Problem" assignments imply the practice of searching through a variety of sources for relevant materials which are to be applied to the solution of a particular difficulty. Attractive "workbooks" entice the pupil farther and farther along the route of accomplishment. "Planning" is a most fundamental step in any purposeful pupil activity or enterprise. All these more recent terms are simply part of the progeny of "the next three pages." The point of departure and the motive, however, are focused on the pupil as a learner rather than on the teacher as a task-setter.

[1] Arthur Clifton Boyce, "Methods for Measuring Teachers' Efficiency," p. 68. *Fourteenth Yearbook of the National Society for the Study of Education*, Part 2. Bloomington, Illinois: Public School Publishing Co., 1915.

As an indication of the re-animation of an old institution, two recent and very helpful volumes have appeared. The following brief quotations may partially justify this immediate study.

> And while the spirit of the assignment is changing and will change in accordance with changes in educational theory, it is doubtful whether the act of assignment will change in its essential features. Education is likely to proceed in the master-pupil relationship for all time to come because youth will remain youth and need guidance and direction in learning, and teachers will be needed to direct them in the learning process. . . . .
>
> Assignment of lessons is still fundamental in teaching. . . . . Only the character of the assignment has changed; its fundamental importance as a technique of teaching remains.[1]
>
> Indeed, the assignment, broadly considered, is an aspect of instruction which is fundamental to all other phases of the teacher's work. . . . .
>
> The techniques of assignment-making, then, occupy a position of unique significance in effective teaching and merit the careful study of all who are engaged in educational work.[2]

METHODS AND ASSUMPTIONS IN MAKING A SCALE

The purpose of the study reported in this article was to formulate a ten-point scale to illustrate the relative merits of lesson assignments in the social studies taken from a large number of assignments actually set by teachers.[3] It is assumed that there are differences in quality of assignments made, when a large number of assignments is considered, and that teachers are able to note such differences. It is also assumed that the teachers' judgments, given a large number, tend to be distributed in accordance with the normal-distribution curve. This technique also assumes as basic the axiom that differences equally often noticed are equal except when always or never noticed.[4] Differences of ascending merit should, however, be so small that not all judges see them and not so large that they are always seen by all. If 50 per cent of a group of judges note Assign-

[1] Gerald Alan Yoakam, *The Improvement of the Assignment*, pp. 2–4. New York: Macmillan Co., 1932.

[2] William G. Carr and John Waage, *The Lesson Assignment*, pp. v, 3. Stanford University, California: Stanford University Press, 1931.

[3] Excepting Assignment G (the best), which is supposititious.

[4] G. S. Fullerton and J. McKeen Cattell, *On the Perception of Small Differences* pp. 12 ff. University of Pennsylvania Philosophical Series, No. 2. Philadelphia: University of Pennsylvania Press, 1892.

ment B as better than Assignment A, then, per contra, an equal percentage would note Assignment A as better than Assignment B. In this case Assignments A and B would be equal in merit. If the differences between the assignments, one as compared with another, are such that three judges out of four note such differences but one of the four does not, then such differences in quality of assignments would be ideal for purposes of according weights and would conform exactly to the connotation of one unit of median deviation on the base line of the normal-distribution curve of agreements in judgment. For purposes of scale-making, percentages of better judgments lying between 50+ and 100− may be transmuted into fractional units of probable-error (median) deviation. Such a procedure was followed in this study.[1]

OBTAINING JUDGMENTS OF ASSIGNMENTS

More than two hundred lesson assignments for elementary-school and junior high school grades were collected from various sources.[2] About fifty of these happened to pertain to the social studies in Grade VII. By selective processes ten criteria for judging assignments were set up, and the opinions of one hundred students in education, teachers, supervisors, and principals concerning twelve of the fifty samples were recorded on the following form.

LESSON-ASSIGNMENT RECORD SHEET

Place in "order of merit" the twelve samples of lesson assignments. Do not allow length of assignment to influence you. Place the "poorest assignment" in Pile 1, the assignment "just a little better" in Pile 2, and so on until the "best assignment" is placed in Pile 12. Enter the order of placement below, according to letter (A, B, C, and so on). In determining "merit of assignment," hold in mind the following questions.

[1] Although not the same measure, the median deviation and the probable error *are numerically equal* for normal distributions. If the reader wishes a fuller exposition of such techniques, he should see any one of the following: Milo B. Hillegas, "Scale for the Measurement of Quality in English Composition by Young People," *Teachers College Record*, XIII (September, 1912), 12–21; Cyrus D. Mead, "Scaling Lessons Taught," *Journal of Educational Method*, VI (November and December, 1926), 115–19, 168–74; Cyrus D. Mead, "An Industrial Arts Lesson Scale," *Educational Administration and Supervision*, XVII (September, 1931), 429–45.

[2] For sources of assignments, see Charlotte Prichard Tinker, "Studies in Lesson Assignments in Elementary Grades," chap. 8. Unpublished Master's thesis, University of California, 1932.

Does the assignment:

1. Grow out of lessons previously learned?
2. Allow for individual differences in ability?
3. Show relationship to a large topic or problem?
4. Demand the use of pupil initiative?
5. Stimulate to maximum effort?
6. Demand the use of discriminative judgment?
7. Indicate how the pupil is to proceed?
8. Demand social responsibility?
9. Call for pupil co-operation in planning?
10. Demand creative effort?

I have placed in "order of merit":

In Pile Number	The Assignment Lettered
1. Poorest	.....
2.	.....
3.	.....
4.	.....
5.	.....
6.	.....
7.	.....
8.	.....
9.	.....
10.	.....
11.	.....
12. Best	.....

Before returning samples of assignments, or handing to someone else, replace in A-B-C order, so your placement order will be broken.

It is an interesting observation that, when attempts are made to note differences in quality of similar products (from very poor to very good), ten somewhat distinct differences can be noticed but that, when the degrees of difference exceed ten or eleven, some samples begin to be rated as equal or near equal. Such was the case in the attempt to distinguish differences in quality of the lesson assignments. It was found that two pairs of the twelve piles, each assignment to the other within the pair, were nearly alike, A and L, and C and F. A and C were consequently discarded, and ten samples remained from which the scale was constructed. Twenty judgments which deviated more than twenty-four points from average pile placements were discarded. The rank order of the total pile place-

ments by eighty judges was re-determined, and the percentage of times each assignment was found better in quality than the preceding assignment was reckoned. These percentages were then transmuted into fractional units of probable error, the normal curve of distribution being assumed. Table I is an epitome of these proce-

TABLE I

SCALE OF VALUES OF TEN LESSON ASSIGNMENTS ACCORDING TO RATINGS GIVEN BY EIGHTY JUDGES

Assignment*	Order of Placement (1 Is the Poorest)	Average Pile Placement	Given Better Rating than Preceding Assignment by Eighty Judges†		PE Value with Reference to Preceding Assignment	PE Value with Reference to Assignment B	Final Value with Reference to Zero Point
			Number of Times	Percentage of Times			
B.....	1	1.37	.....	.....	0.00	0.00	5.00
I.....	2	3.60	68	85.0	1.54	1.54	6.54
E.....	3	3.92	43	53.8	.15	1.69	6.69
H.....	4	4.91	42	52.5	.07	1.76	6.76
K.....	5	5.41	43	53.8	.15	1.91	6.91
F.....	6	6.02	47	58.8	.34	2.25	7.25
D.....	7	7.17	51	63.8	.53	2.78	7.78
J.....	8	8.61	54	67.5	.65	3.43	8.43
L.....	9	9.96	57	71.3	.82	4.25	9.25
G.....	10	11.81	73	91.3	1.99	6.24	11.24

* Assignments A and C have been omitted.

† This column is read as follows: 68 out of 80 judges, or 85.0 per cent, rated Assignment I as of better quality than the preceding assignment (Assignment B), etc.

dures, and a graphic presentation of the scale is given in Figure 1. The beginning value of 5.00 of Assignment B (the poorest) was arbitrarily set on the assumption that, if an assignment were found such

FIG. 1.—Scale values of ten lesson assignments

that 999 competent teachers out of 1,000 judged it poorer than Assignment B but one teacher considered it better than Assignment B, such assignment possessing *some* merit, then it would occupy at least five steps of probable-error deviation below the poor Assignment B—hence the hypothetical "zero point."

THE LESSON-ASSIGNMENT SCALE

This scale is a somewhat rough and approximate measure. If, by extension of the procedure, sample assignments could be found at equal space intervals, a more ideal scale would perhaps be secured. The scale itself is, however, of no especial value unless it makes teachers "assignment conscious"; that is, the teachers should come to realize that the lesson assignment may play a very important part in the learning process and that, to be of value, it must be given serious time on the part of the teachers. The ten assignments composing the scale, together with their probable-error values, are given in the following paragraphs.

ASSIGNMENT B

[Given in high-seventh grade to a class in geography—value 5.00.]

Make the map on pages 12 and 13 and draw lines to show elevation in North America. Make the maps on 21, 31, 41, and 46.

This assignment was probably considered the poorest because it fulfilled none of the criteria by which the assignments were being judged. The teacher did not say how the pupils were to proceed, tell them what materials were to be used, call for any co-operation in planning on the part of the pupils, nor allow for any differences in ability. There was no evidence that the assignment grew out of any lessons previously learned. Rather, it appeared to be merely a "busy-work" assignment.

ASSIGNMENT I

[Given in seventh grade to a class in history—value 6.54.]

"Tomorrow, children, you will have a test on the questions on the board."

1. The evolution of the United States as a world-power.

2. What must a nation possess at home and abroad in order to be called a world-power?

3. What disputes have been settled by arbitration?

[The hour was spent in summing up the answers to the questions. The teacher did a great deal of the talking and answered the questions of the pupils.]

The greater merit attributed to this assignment probably resulted from the fact that the words "tomorrow" and "test" tended to stimulate the pupils to maximum effort; thus, one of the criteria used was fulfilled. The questions asked also seemed to indicate that they grew out of lessons previously learned.

ASSIGNMENT E

[Given in high-seventh grade to a class in geography—value 6.69.]
Read pages 409–25 (Book II), and answer the following questions.
1. What are the divisions?
2. Of what importance is China proper?
3. What conditions favor manufacturing and trade?
4. What conditions favor agriculture?
5. What has made progress?
6. What are the promising changes?

Discriminative judgment was called for in answering Questions 2–6, inclusive, and possibly an interest in the country of China had been evinced or induced in previous lessons. There was no evidence that any of the other criteria used for judging were satisfied.

ASSIGNMENT H

[Given in seventh grade to a social-studies (English) class—value 6.76.]
Write a poem or story of California in the Spanish days.

More merit was accredited to this assignment because this type allows for greater elasticity in the use of individual ability and demands creative effort. There was the possibility that all the six following criteria might be satisfied: (1) grow out of lesson previously learned; (2) allow for individual differences in ability; (3) show relationship to a large topic or problem; (5) stimulate to maximum effort; (6) demand the use of discriminative judgment; and (10) demand creative effort.

ASSIGNMENT K

[Given in seventh grade to a class in history—value 6.91.]
On Monday we will have a discussion of the war with Spain. Read pages 548–54. These are points to look for: (1) what led up to the war, (2) the course of the war, (3) the negotiations for peace.

The fact that this lesson gave more indication of how the pupil was to proceed than the preceding assignments probably gave this assignment a higher place on the scale. It ran a close race with Assignment H because it was similar and had the same points in its favor, but it had the added merit of definiteness.

ASSIGNMENT F

[Given in seventh grade to a class in geography—value 7.25.]
Read chapter xxiii. Pick out the key words, and be ready to explain their significance. Study the following topics: (1) Germany's natural wealth com-

pared with other nations, (2) the chief reasons for her rapid progress, (3) her use of fertilizers, (4) the lowland regions, (5) valleys of the middle and southern Germany, (6) two chief crops, (7) other crops of importance, (8) uses of potatoes, (9) sugar-beet area, (10) why extensively cultivated in Germany.

This assignment provided for a diversity of pupils' interests. Much interesting discussion would probably grow out of these topics. Thus, allowance was made for individual differences in ability, use of pupil initiative, and use of discriminative judgment. The assignment possessed the added merit of definiteness.

ASSIGNMENT D

[Given in seventh grade to a class in history—value 7.78.]

Who of our great men were leaders? What kind of training did they have of value?

How might location make them think differently? Cite an example.

What is a compromise? Turn to index and find a compromise made later in our history. Was it best or not? Why?

Why did ratification of the Constitution require only nine states when the Articles of Confederation required *every* state to ratify an amendment?

Human interest in the lives and leadership of "our great men" may have influenced the judges to give this assignment a higher rank than that given preceding assignments. This assignment seemed more psychological than logical. The teacher worked from the children's interest in men to an interest in the affairs of men. There was provision for acceptance of varied amounts of work. One pupil might merely answer the questions concisely, while another would follow one or more into tangent fields of learning. It was, therefore, an elastic assignment. It was definite in indicating how the pupil was to proceed. It demanded the use of discriminative judgment and showed a relation to a large topic.

ASSIGNMENT J

[Given in seventh grade to a social-studies class (English)—value 8.43.]

Pretend you are taking a trip with Champlain or La Salle. Write a letter telling your experiences. It will be necessary to find out all you can about the person you take.

This assignment was a stimulating type of assignment which called for considerable pupil initiative and creative effort. It was definite as to procedure but allowed for discriminative judgment.

ASSIGNMENT L

[Given in seventh grade to a class in social studies—value 9.25.]

The seventh-grade class in social studies had been studying the colonial policy of Great Britain and had made a map of Great Britain's possessions. One day a week was given to current events, and the class was told to bring all references to Great Britain's interests in different parts of the world spoken of in one edition of the *San Francisco Chronicle.*

There is no doubt that this exercise grew out of previous lessons. It was well within the ability of the class, was definite, was planned to build up desirable habits in preparing for the current-events recitation. However, the writer believes that it did not merit a place above the assignments which called forth creative effort.

ASSIGNMENT G

[An assignment for a seventh-grade class in history—value 11.24.]

Teacher: "What explorers have we been studying?"

Children: "Boone, Pike, and so forth."

Teacher: "Are there any other pioneers or explorers that we ought to know more about?"

Children: "The ones who used the Santa Fe Trail, the Oregon Trail, and those who were in the Gold Rush."

Teacher: "Could you suggest how we might go about finding out about these pioneers?"

Children: "I think we should use the same outline which we used in studying Pike and the others."

[This plan was agreed to by the pupils. The following outline was read: "(1) Start. (2) Party. (3) Reason for going. (4) Route. (5) Experiences. (6) Results."]

Teacher: "Do we need to consider anything else before we go to work?"

Children: "Yes, let some of us study the Santa Fe Trail, some the Oregon Trail, and some the Gold Rush."

[This program was accepted by the group, and each child decided which of the three he preferred to study. Three groups were formed. Reference works were ready for each group.]

Pupil co-operation was shown in the planning of this assignment, and this fact may account for the high rank given this lesson. Allowance was also made for a choice of topics, which demanded the use of pupil initiative and of discriminative judgment. The assignment grew out of lessons previously learned and showed relation to a larger topic. It indicated how the pupils were to proceed, called for group responsibility, and was likely to lead to maximum effort.

GRADUATE WORK OF SUPERINTENDENTS

EDWARD WILLIAM DOLCH
University of Illinois

There is a steadily increasing sentiment that school superintendents need more professional preparation for their work than they ordinarily have. One method of securing such preparation is through individual study. Many books treating the problems of supervision are now available; the professional magazines give a wealth of fact and expert opinion; and each superintendent's own school system presents material for much thought and research. Another method of securing professional preparation is through work in the graduate schools of the large universities. Such work offers the advantage of guidance by experts and the assurance of certain standards of achievement. The amount of graduate work done by supervisory officers is steadily increasing, and it is to be encouraged without thought of detracting from the value of any individual study pursued. In fact, without that individual study, the work in higher institutions is likely to be barren of benefits because of the ever-changing conditions both in the country as a whole and in each particular situation.

To discover, if possible, how much graduate work was being done or had been done by school superintendents in Illinois, the writer in the school year 1932–33 conducted an investigation by questionnaire among these officers in the school systems of the state (outside Chicago) enrolling five hundred or more elementary-school pupils. Because of the system of independent high schools in Illinois, the superintendents are divided into two groups, those supervising only elementary-school districts and those supervising districts including both elementary and high schools. The data for these two groups are presented separately. Each group is also divided according to enrolment in order to show the effect, if any, of the size of the system. Finally, the superintendents are grouped according to their academic standing: (1) those without a first degree; (2) those with

a first degree only, that is, a degree given after a four-year college course; (3) those working for the Master's degree, including all those who have done work beyond the first degree but who have not received the second degree; (4) holders of the Master's degree; (5) those beyond the Master's degree, including all those who have done any graduate work after having received the Master's degree but who have not the third degree; and (6) holders of the Doctor's degree. Many individuals placed in the group "Working on Master's

TABLE I

ACADEMIC STANDING OF SUPERINTENDENTS IN ILLINOIS IN DISTRICTS INCLUDING ELEMENTARY AND HIGH SCHOOLS

ACADEMIC STANDING OF SUPERINTENDENTS	NUMBER OF SUPERINTENDENTS IN DISTRICTS WITH ELEMENTARY-SCHOOL ENROLMENTS OF—					
	4,000 and More	3,000–3,999	2,000–2,999	1,000–1,999	500–999	Total
Without first degree	1	0	0	1	0	2
First degree only	0	0	0	1	1	2
Working on Master's degree	1	1	0	3	0	5
Master's degree only	2	2	2	4	3	13
Beyond Master's degree	2	3	2	4	4	15
Doctor's degree	1	0	1	1	1	4
Total	7	6	5	14	9	41
Total in state	7	6	5	14	11	43

degree" have done a year or more of graduate work, but the work has been so scattered that it cannot be presented for a degree. Many individuals listed as "Beyond Master's degree" have done several years of graduate work but have not worked specifically for the Doctor's degree.

The academic standings of superintendents in Illinois who have charge of districts including both elementary schools and high schools are shown in Table I. Special attention is called to the row of figures at the bottom of the table, which show that practically 100 per cent of these superintendents returned the questionnaire. The group is to be complimented on this splendid co-operation. The table shows that, of the superintendents without a first degree, one is in a system with an enrolment of four thousand or more and one

in a system with an enrolment of 1,000–1,999, or a total of two in this class. Again, seven superintendents in systems with enrolments of four thousand or more replied, and there are only seven such superintendents in the state; that is, the questionnaire returns for this enrolment group were 100 per cent.

The number of returns from the superintendents gives special significance to the large amount of graduate work reported. Even if the two superintendents who did not answer are placed in the groups without graduate standing, the figures show that, of a total of 43 superintendents, 32, or 74 per cent, hold the Master's degree or better. While the proportion of superintendents with graduate standing may not be so large in systems with enrolments of less than five hundred, it is clear that the larger systems in Illinois which require supervision of both elementary and high schools command the services of men with advanced academic standing.

The distribution according to size of school system shows no distinct tendency for the larger systems to favor superintendents with graduate work to a greater extent than do the smaller systems. Men with the Master's degree and with the Doctor's degree appear in systems of all sizes, as do men with little graduate work. Length of service in the same position does not have the influence here that might be expected. The average for the whole group is 8.4 years of service in the same position. There is no definite tendency for men with little graduate work to have been longer in their positions than others. Of the two men without first degrees, one has been in the same position for twenty-two years, the other for only five years. Two other men, each of whom has spent twenty-two years in his present position, have the Master's degree. There is now abroad a definite impression that graduate work is helpful in securing a position. It seems equally true that men have found graduate work helpful in holding positions. Of the four men holding the Doctor's degree, one was new in his position the year of this study, while the others have held their positions nine, ten, and seventeen years, respectively.

As already mentioned, the Illinois laws result in a system by which high-school districts independent of the elementary-school districts are often organized. It happens, therefore, that many superintend-

ents of schools have charge of elementary schools only and that the high schools attended by their graduates are directed by principals selected by separate high-school boards of education. Table II gives the data separately for this group of superintendents because the conditions affecting these administrators are somewhat different from those affecting the superintendents having charge of both elementary and high schools.

TABLE II

ACADEMIC STANDING OF SUPERINTENDENTS IN ILLINOIS HAVING CHARGE OF ELEMENTARY SCHOOLS ONLY

ACADEMIC STANDING OF SUPERINTENDENTS	NUMBER OF SUPERINTENDENTS IN DISTRICTS WITH ELEMENTARY-SCHOOL ENROLMENTS OF—					
	4,000 and More	3,000–3,999	2,000–2,999	1,000–1,999	500–999	Total
Without first degree	0	0	0	4	1	5
First degree only	0	0	1	1	6	8
Working on Master's degree	1	0	4	11	7	23
Master's degree only	1	1	1	8	8	19
Beyond Master's degree	0	1	0	6	3	10
Doctor's degree	1	0	0	1	0	2
Total	3	2	6	31	25	67
Total in state	6	3	7	36	61	113

An outstanding fact brought out by Table II is that only 59 per cent of the superintendents in this group answered the questionnaire. This percentage is fairly large as questionnaire investigations go, but it definitely affects the interpretation of this table. Inquiries made indirectly indicated that superintendents without degrees or with little graduate work were embarrassed by a questionnaire asking them to report their graduate standing. Some of those who reported that they had no degrees did so apologetically. As a result, the conclusion is inevitable that the degrees reported in Table II represent nearly all those held by the members of this group. The forty-six superintendents who failed to return the questionnaire probably hold no degrees at all or hold only a first degree. On this basis, it may be said that the table shows that 31 of the total of 113, or only 27 per cent, hold the Master's degree or better. When the distribution

according to size of school system is given consideration, it is found that the largest percentages of returns are from the systems with enrolments of one thousand or more. In these larger systems, forty-two out of fifty-two superintendents, or 81 per cent, replied. If it may be assumed that the ten who did not answer have no graduate standing, the conclusion is that twenty of these fifty-two superintendents, or 38 per cent, hold the Master's degree or better.

The difference in the amount of graduate work done by the group of superintendents having charge of both elementary and high schools and that done by the group supervising only elementary schools is striking. One reason for this difference may be the types of supervision required. The elementary schools are perhaps not thought of as presenting such difficult problems as do the elementary and high schools combined. In the eyes of school-board members at least, elementary-school problems are considered relatively simple, not demanding highly technical knowledge or preparation. Another reason for this difference in training may be length of service in the particular system. There is a strong tendency for the elementary-school superintendents to hold their positions for longer periods than the superintendents of elementary and high schools. The latter group of superintendents average 8.4 years in their present positions, while the group represented in Table II average 10 years. The elementary-school superintendents who did not answer the questionnaire average fourteen years (as shown by the *Illinois School Directory, 1932–1933*). It may be that school boards consider experience in elementary-school work a sufficient substitute, or at least a satisfactory substitute, for professional study. A third reason for the difference in the academic standing of the two groups may be the policy of graduate schools of education. Do these schools offer work which appeals to elementary-school superintendents as helpful or essential in their supervision?

Another item of interest brought out by this investigation is that about half the superintendents returning the questionnaire had majored in education for their first degrees. The remainder had majored for their first degrees in all the subjects of the curriculum, from classics to agriculture. Practically all the graduate work, however, was in education. Only seven of the holders of the Master's

degree and none of the holders of the Doctor's degree majored in other subjects. This result was to be expected from the demands of a supervisor's position.

SUMMARY

A questionnaire sent to all the superintendents of schools in Illinois (outside Chicago) in systems with elementary-school enrolments of five hundred or more shows that 74 per cent of the superintendents of elementary-school and high-school districts combined hold the Master's degree or better. Among the superintendents of elementary-school systems only, not more than 27 per cent can be shown to have the Master's degree or better, since those in this group who replied (59 per cent) cannot be said to be representative of those who failed to reply. The superintendents of elementary-school and high-school districts combined average 8.4 years in their present positions; the elementary-school superintendents who replied average 10 years; and those who did not reply average 14 years. School boards may in some cases consider length of service a substitute for graduate study. Half the first degrees and practically all the graduate degrees were secured in education.

Similar studies made in other states will be welcomed as giving further answers to the question: To what extent are superintendents of schools doing graduate work in order to secure better professional preparation for their positions?

SELECTED REFERENCES ON ELEMENTARY-SCHOOL INSTRUCTION

III. The Subject Fields—Continued

This list of references is the third of a series relating to instruction at the elementary-school level. The first list, appearing in the September issue of the *Elementary School Journal*, contained items on the curriculum, methods of teaching and study, and supervision. The second list, published in October, contained items grouped under the following subject fields: reading, English, spelling, handwriting, the social sciences, and geography. The present list covers the remaining subject fields at the elementary-school level and is the last of the series dealing with elementary-school instruction.

ARITHMETIC[1]

G. T. Buswell

The following bibliography differs from the preceding "Summaries of Arithmetic Investigations," compiled by the writer annually since 1925, in that the present bibliography makes no pretense of completeness but rather selects from the material in arithmetic those studies which seem most deserving of a place in a limited list. References dealing entirely with primary arithmetic are excluded because such references appear in the selected bibliography on kindergarten-primary education published in the April number of the *Elementary School Journal*.

The amount of material available for the year and a half covered in this bibliography is considerably smaller than it has been since 1925. The reasons for this lessened amount of activity in research in arithmetic are probably numerous, but it may result in part from a let-down in effort by the rather large group of contributors to the yearbook on arithmetic published by the National Society for the Study of Education in 1930. More significant than the reduction in

[1] See also Item 117 in the list of selected references appearing in the February, 1933, number of the *School Review*, Items 256 and 275 in the September, 1933, number of the *Elementary School Journal*, and Items 319, 326, and 330 in the October, 1933, number of the *Elementary School Journal*.

the number of articles is the fact that few references appearing during the last year and a half constitute major investigations. Most, although not all, of the studies reported are decidedly limited in scope and afford a meager basis for any final answer to the problems which they raise.

It is entirely probable that the smaller amount of research which is apparently in progress is a reflection of the reduced morale resulting from the present economic disturbance in education. While the demands on educators are undoubtedly increased by the readjustments necessitated by the recent emergency, the writer believes that the permanent loss to education through a reduction in research may bring consequences even more serious than those which may temporarily result from the depression. This period, when the publication of the results of research is hampered by lack of financial resources, is an excellent time to initiate major investigations which will extend over five or ten years. Although there is no assurance that resources for publication will be available after the studies have been completed, there is the certainty that research studies projected on such a scale will be worth publishing. The present bibliography is a strong argument for research pitched on a level decidedly higher than that characterizing recent studies.

418. BRUECKNER, LEO J. "Social Problems as a Basis for a Vitalized Arithmetic Curriculum," *Journal of Experimental Education*, I (June, 1933), 320–22.

Presents a list of problems from the field of social science which might be used in courses of study in arithmetic. A brief but stimulating argument for socialized arithmetic.

419. BRUECKNER, LEO J., and ELWELL, MARY. "Reliability of Diagnosis of Error in Multiplication of Fractions," *Journal of Educational Research*, XXVI (November, 1932), 175–85.

Shows that diagnosis of difficulty on the basis of an analysis of written tests containing single examples of given types is likely to be unreliable and invalid and does not furnish a safe basis for individual diagnosis. Recommends at least three examples of each type for an individual diagnostic test. A good report.

420. BURGE, LOFTON V. "Types of Errors and Questionable Habits of Work in Multiplication," *Elementary School Journal*, XXXIII (November, 1932), 185–94.

Shows percentages of pupils in Grades IV, V, and VI making each of 68 types of errors in multiplication. Study based on 2,577 pupils. Analysis of errors on test papers was supplemented by individual interviews, which furnished most of the data.

421. BUSWELL, GUY THOMAS. "Summary of Arithmetic Investigations (1931)," *Elementary School Journal*, XXXII (June, 1932), 766–73.

Summarizes fifty quantitative or critical studies which appeared during the calendar year 1931.

422. ENGELHART, MAX D. "The Relative Contribution of Certain Factors to Individual Differences in Arithmetical Problem Solving Ability," *Journal of Experimental Education*, I (September, 1932), 19–27.

Studies relation of each of the factors of intelligence, computation ability, and reading ability to problem-solving ability in Grade V. A good example of refined statistical treatment. A significant article worth careful reading by advanced students.

423. *Evaluation of Arithmetic Textbooks*. California State Department of Education Bulletin, No. 19. Sacramento, California: State Department of Education, 1932. Pp. viii+28.

An analysis and evaluation of six series of textbooks in arithmetic. The best material of its kind which has come to the reviewer's attention. The method used will be helpful to any committee charged with selecting textbooks.

424. FORAN, T. G. "Drill in Arithmetic," *Catholic Educational Review*, XXXI (April, 1933), 232–43.

A critical summary of certain investigations relating to drill plus a thoughtful discussion of the entire function of drill.

425. GROSSNICKLE, FOSTER E. "Classification of the Estimations in Two Methods of Finding the Quotient in Long Division," *Elementary School Journal*, XXXII (April, 1932), 595–604.

A detailed classification and analysis of estimations of quotients in long division.

426. GROSSNICKLE, FOSTER E. "Still More Ado about Zero," *Elementary School Journal*, XXXIII (January, 1933), 358–64.

A critical discussion of two previous articles regarding zero, one by John W. Dickey ("Much Ado about Zero," *Elementary School Journal*, XXXII [November, 1931], 214–22), and the other by Harry G. Wheat (Item 439 in this list).

427. GROSSNICKLE, FOSTER E. "Cues in Division Problems Given in Nine Representative Textbooks in Arithmetic," *Elementary School Journal*, XXXIII (February, 1933), 452–61.

Presents lists of cues in division problems found in the analyses of nine textbooks for Grades III–VI.

428. GUILER, WALTER SCRIBNER. "Computational Errors Made by Teachers of Arithmetic," *Elementary School Journal*, XXXIII (September, 1932), 51–58.

Analyzes the errors made by a group of twenty-two teachers on a survey test in computational arithmetic.

429. HIZER, IRENE S., and HARAP, HENRY. "The Learning of Fundamentals in an Arithmetic Activity Course," *Educational Method*, XI (June, 1932), 536–39.

A concrete example of an attempt to teach fundamentals in arithmetic through a series of activities. Gives an interesting chart showing opportunities for teaching forty-seven fundamental steps in decimals in relation to twenty-seven listed activities. Gives no data as to results of such an organization of material. Suggestive to makers of textbooks.

430. KNIGHT, F. B. "Trends in Arithmetic," *Bulletin of the Department of Elementary School Principals*, XI (July, 1932), 640–45.

A critical appraisal of recent trends in arithmetic with a discussion of their probable future implications. Worth careful reading.

431. LAZERTE, M. E. *The Development of Problem-Solving Ability in Arithmetic.* Toronto: Clarke, Irwin & Co., Ltd., 1933. Pp. xviii+136.

A summary of six scientific studies made by the author concerning pupils' mental processes in problem-solving. The report is important both because of its contribution to new techniques and because of the data presented. The author adds a final chapter concerning applications to methods of teaching arithmetic. A major contribution.

432. MACLATCHY, JOSEPHINE H. "Another Measure of the Difficulty of Addition Combinations," *Educational Research Bulletin*, XII (March 8, 1933), 57–61.

Proposes a new measure of the relative difficulty of arithmetic combinations, namely, the degree of familiarity which children have with various number combinations at the time of entering school. Presents data on familiarity to children of twenty combinations drawn from 2,283 children.

433. MITCHELL, CLAUDE. "Problem Analysis and Problem-Solving in Arithmetic," *Elementary School Journal*, XXXII (February, 1932), 464–66.

Reconstructs a set of five difficult reasoning problems by adding a series of analytical questions to each. Compares scores on the reconstructed problems with previous scores on original set. Finds marked improvement as result of analytical exercises. Study based on results from 117 pupils in Grades VII and VIII.

434. OLANDER, HERBERT T. "The Need for Diagnostic Testing," *Elementary School Journal*, XXXIII (June, 1933), 736–45.

Presents data on the question: Should scores on test papers in arithmetic be affected by the method of work employed by the pupil?

435. OLANDER, HERBERT T., and SHARP, E. PRESTON. "Long Division versus Short Division," *Journal of Educational Research*, XXVI (September, 1932), 6–11.

Shows that 75 per cent of pupils from Grades IV–XII used long division in solving difficult examples in division with single-digit divisors and that pupils

used the long-division form with greater accuracy. Advocates teaching of long division first and as the regular method to be used by a majority of pupils.

436. RENWICK, E. M. "Children's Misconceptions concerning the Symbols for Mathematical Equality," *British Journal of Educational Psychology*, II (June, 1932), 173–83.

Finds that many children, aged ten to twelve, are unable to understand correctly the mathematical symbol "equal." Data are presented showing how symbol is used. Study should be extended to show how this concept is developed by using children of successive ages.

437. RUCH, G. M. "Relative Difficulty of the One Hundred Multiplication Facts with Special Reference to Textbook Construction," *Elementary School Journal*, XXXII (January, 1932), 369–77.

A critical comparison of the investigations of Clapp, Norem and Knight, and Fowlkes. Ruch notes that learning difficulties are very different from final difficulties and makes several pertinent applications to the problem of textbook construction.

438. WASHBURNE, CARLETON. "Arithmetic Grade-Placement Investigations of the Committee of Seven," *Educational Research Bulletin*, XI (November 23, 1932), 396–401.

A reply to the article by Louis E. Raths ("The Grade-Placement of Addition and Subtraction of Fractions") published in the January 20, 1932, issue of the same journal.

439. WHEAT, HARRY G. "More Ado about Zero," *Elementary School Journal*, XXXII (April, 1932), 623–27.

A brief but important statement regarding the zero difficulty. Presents a sane and constructive point of view which is much needed.

SCIENCE

SAMUEL RALPH POWERS
Teachers College, Columbia University

This bibliography on instruction in science in the elementary school includes articles published during the interval from April, 1932, to June, 1933. The materials included relate particularly to instruction in Grades IV, V, and VI, although there is a definite tendency in these articles to recognize the elementary school as a unit. Problems associated with the education of teachers in science are discussed in some of these reports. These articles, which are mostly of the discussion type, show the character of the newer developments in the teaching of elementary science.

440. ARNSPIGER, V. C. "The Relative Effectiveness of the Sound Motion Picture in Teaching Elementary Science and Music," *Education*, LIII (February, 1933), 332–35.

Presents an experiment which was carried out in the second half of the fifth grades of schools in five different cities to determine the value of sound motion pictures in the teaching of elementary science. Also describes an experiment which was carried out in Grade VII of the junior high school to determine the value of sound motion pictures in the teaching of music.

441. BOWERS, R. E. "The Elementary School Science Room," *New York State Education*, XX (April, 1933), 537.

Shows the trend of forward-looking and progressive school executives toward including in the plans for new buildings space for activities in the teaching of science.

442. BRODSHAUG, MELVIN, and STRAYER, JOHN F. "Sound Pictures in Elementary Science," *Science Education*, XVI (October, 1932), 360–67.

Presents the part played by sound motion pictures in elementary-school science and gives some points on sound-picture equipment which may be used in the classroom.

443. CALDWELL, OTIS WILLIAM, and LUNDEEN, GERHARD EMMANUEL. *An Experimental Study of Superstitions and Other Unfounded Beliefs as Related to Certain Units of General Science.* New York: Teachers College, Columbia University, 1932. Pp. 138.

Presents a research in curricular study carried out by thirty-seven general-science teachers who taught, to eighth- and ninth-grade pupils in public schools, units of instruction into which discussion of common unfounded ideas had been introduced. Results of the experimental use of the units are included and show the effects of specific instruction regarding attitudes toward certain unfounded beliefs and pupil achievement with reference to the objectives as a whole.

444. CALIFORNIA STATE DEPARTMENT OF EDUCATION. *Suggested Course of Study in Science for Elementary School.* California State Department of Education Bulletin, No. 13, Part I. Sacramento, California: State Department of Education, 1932. Pp. viii+90.

A course of study for Grades I–VI and for Grades VII and VIII. Contains bibliography. The newer developments in science for the elementary school are definitely incorporated.

445. CRAIG, GERALD S. "The Program of Elementary Science," *New York State Education*, XX (April, 1933), 524–26, 579–81.

Summarizes the modern trends in science-teaching in the elementary school as liberal and cultural rather than vocational in character.

446. EDWARDS, PAUL G. "Launching and Maintaining an Elementary Science Program in a Large City System," *Science Education*, XVI (December, 1932), 462–67.

Summarizes the methods by which the Chicago public-school system organized and initiated an elementary-science program and the methods by which teachers in service were trained to carry out this program.

447. HARROW, BENJAMIN. "Science in the Schools," *School and Home*, XV (November, 1932), 37–40.

Presents the view that science should be imparted to all children from the earlier ages as part of their general education.

448. MCSPADDEN, W. W., and RAINES, CHARLES C. "Coördinating Electricity and Magnetism in Elementary Science," *Science Education*, XVII (April, 1933), 118–24.

Presents the development of a unit on electricity and magnetism as taught in the elementary schools of Austin, Texas. This article contains excellent pictures of the apparatus used in the development of the unit.

449. MEISTER, MORRIS. "Recent Educational Research in Science Teaching," *School Science and Mathematics*, XXXII (November, 1932), 875–89.

An evaluation and interpretation of a number of the most important research contributions of the past few years. Presents a variety of problems of method and technique in science-teaching from Grade I through Grade XII.

450. PALMER, E. LAURENCE. *Light*. Cornell Rural School Leaflet, Vol. XXVI, No. 3. Ithaca, New York: New York State College of Agriculture at Cornell University, 1933. Pp. 44.

Presents material on light in such a manner that it should be useful to elementary-school teachers.

451. PALMER, E. LAURENCE. *Poisons, Diseases, Medicines*. Cornell Rural School Leaflet, Vol. XXVI, No. 2. Ithaca, New York: New York State College of Agriculture at Cornell University, 1932. Pp. 46.

Tells of the poisonous plants and animals, of bacteria and other agencies that cause diseases, and of the common medicinal plants of New York.

452. PALMER, E. LAURENCE. *Teachers Number*. Cornell Rural School Leaflets, Vol. XXVI, No. 1. Ithaca, New York: New York State College of Agriculture at Cornell University, 1932. Pp. 96.

Contains content selected to aid teachers in the state of New York in the use of their new course of study. Contains also a listing of "Useful Books in Elementary Science and Nature Study Which Have Been Published in 1931–32."

453. PALMER, E. LAURENCE. "The Training of Elementary School Teachers in Science," *New York State Education*, XX (April, 1933), 541, 586–87.

Presents as one of the problems confronting teachers' colleges and normal schools that of preparing elementary-school teachers to carry the work of the new program in science.

454. PARKER, BERTHA M. "Magnets: An Intermediate-Grade Unit in Science," *School Science and Mathematics*, XXXIII (January, 1933), 86–91.

Describes the method by which the unit on magnets was developed in Grade IV in the University Elementary School of the University of Chicago.

455. PENNSYLVANIA DEPARTMENT OF PUBLIC INSTRUCTION. *Courses of Study in Science—Grades One, Two, and Three*, and *Courses of Study in Science—Grades Four, Five and Six*. Bulletin of the Pennsylvania Department of Public Instruction, Nos. 72 and 72A. Harrisburg, Pennsylvania: Pennsylvania Department of Public Instruction.

These two bulletins present a continuous program for the study of science through the grades of the elementary school. Materials are presented under the headings "Problems and Experiences" and "Suggested Activities."

456. PERSING, ELLIS C. "Science Library for Elementary Schools," *School Science and Mathematics*, XXXII (December, 1932), 979–97.

Contains lists of books for both teachers and pupils.

457. POWERS, SAMUEL RALPH. "Science in Education," *New York State Education*, XX (April, 1933), 520–23, 573–79.

Emphasizes the fact that one of the greatest challenges to science teachers is the necessity of giving instruction that will contribute to the pupils' understanding of modern thought and to their ability to interpret the phenomena of common observations. The article suggests as a pattern for the program of science in education a curriculum organization which gradually unfolds increasingly enlarged interpretations in sequential order paralleling the growth in maturity of the learner.

458. PRATT, CHARLES. "A Course in Elementary Science for Second-Year Connecticut Normal School Students," *School Science and Mathematics*, XXXIII (June, 1933), 624–34.

Summarizes the method by which a program is being developed for the training of elementary-science teachers in the normal schools of Connecticut.

459. STEVENS, BERTHA. "New Concepts and Trends in Science Education in the Elementary and Primary School Curriculum," *Children's Library Yearbook*, No. 4, pp. 16–26. Chicago: American Library Association, 1932.

Describes the modern trend toward teaching the so-called "separate" sciences as a whole and the tendency to integrate science with other subjects into a still more inclusive whole.

460. VINAL, WILLIAM G. "Nature Clubs for Teacher Training," *School Science and Mathematics*, XXXII (November, 1932), 825–37.

Describes the training in nature clubs used in Western Reserve University to prepare students to teach nature-study in the elementary school. Summarizes reports from some of the clubs.

461. WELLER, FLORENCE. "Attitudes and Skills in Elementary Science," *Science Education*, XVII (April, 1933), 90–97.

Describes an experiment carried out in Grade VI of the Baltimore public schools to determine to what extent children can develop attitudes and skills in problem-solving as an outcome of their instruction in science.

462. WRIGHTSTONE, J. WAYNE. "Fur Bearing Animals," *Grade Teacher*, L (January, 1933), 348–49, 391.

Presents a unit on fur-bearing animals as a unit in natural science and shows how this unit may be integrated with the various departments of a school curriculum.

463. WYLER, ROSE. "Studying Rocks in the First Grade," *Science Education*, XVII (April, 1933), 106–11.

Describes the method by which the unit entitled "The Earth Is Made of Rock" was developed in Grade I at Glens Falls, New York.

MUSIC

ANNE E. PIERCE
University of Iowa

464. COLEMAN, SATIS N. "The Progress of the Movement for Creative Music in the Schools," *School Music*, XXXII (September–October, 1932), 3–6.

An article which traces the development of the creative movement in music education and tells how children's interest in music has been stimulated through the construction of instruments and the creation of compositions.

465. DONINGTON, MARGARET. *Music throughout the Secondary School:* A Practical Scheme. London: Oxford University Press, 1932. Pp. 88.

A brief account of the author's methods of teaching music in the lower, middle, and upper schools in England, which include children from the ages of four to seventeen years.

466. GIDDINGS, T. P. "To Syllable or Not To Syllable," *Music Supervisors Journal*, XIX (October, 1932), 35, 43.

The author states his reasons for advocating the use of the sol-fa syllables in teaching music-reading in the public schools and gives a suggested routine for their application.

467. JACOBSEN, O. IRVING. "Can the Latin Syllables Be Discarded?" *School Music*, XXXII (September–October, 1932), 7–8.

A report of an experiment in teaching second-grade children to read music without the use of the sol-fa syllables.

468. JACOBSEN, O. IRVING. "The Influence of Hearing Defects," *Music Supervisors Journal*, XIX (March, 1933), 24–25.

Discusses frequent occurrence of defective hearing among children and its effect on musical performance.

469. MOOS, JEAN CORRODI. "Some Recent Developments in Music Testing," *Musical Quarterly*, XIX (July, 1933), 318–30.

A description and an evaluation of the testing movement in music.

470. NORTON, ALMA M. *Teaching School Music.* Los Angeles, California: C. C. Crawford (University of Southern California), 1932. Pp. 248.

A practical treatise of different theories and practices of teaching music-reading and part-singing in the schools.

471. WOLCOTT, RUTH. "The Music Supervisor Meets His Teachers," *School Music*, XXXIII (March–April, 1933), 3–4, 16, 20.

Comments on the importance of the well-planned meeting for teachers and gives some suggestions on general procedures. A brief bibliography supplements the article.

ART AND ART EDUCATION[1]

W. G. WHITFORD

472. CONNECTICUT STATE BOARD OF EDUCATION. *A Program of Art Education for Connecticut.* Hartford, Connecticut: State Board of Education, 1932. Pp. 128.

Presents progressive ideals for a modern program of art education for the public schools of Connecticut. Discusses general objectives and criteria for art education, "what we mean by art education," subject-matter content, terminology, curriculum-building, and duties of teachers and supervisors.

473. *Creative Expression:* The Development of Children in Art, Music, Literature and Dramatics. Edited for the Progressive Education Association by Gertrude Hartman and Ann Shumaker. New York: John Day Co., 1932. Pp. 350.

An encyclopedic volume in which the editors have brought together under one cover special numbers of the magazine entitled *Progressive Education.* Presents valuable discussion of creative expression through art, music, dramatics, and literature.

474. GALE, ANN VAN NICE. *Children's Preferences for Colors, Color Combinations, and Color Arrangements.* Chicago: University of Chicago Press, 1933. Pp. xvi+60.

A monograph presenting an interesting and unique research technique for the study of children's reactions to color in combinations commonly used by artists in creative work.

475. KLAR, WALTER H., WINSLOW, LEON L., and KIRBY, C. VALENTINE. *Art Education in Principle and Practice.* Springfield, Massachusetts: Milton Bradley Co., 1933. Pp. viii+422.

A practical book for teachers and supervisors of art in elementary and second-

[1] See also Items 135 and 144 in the list of selected references appearing in the April, 1933, number of the *Elementary School Journal.*

ary schools. Discusses objectives, organization of art courses, integrating of school subjects, psychology of art, supervision of art, evaluating teaching, supply lists, extra-curriculum activities, demonstration lessons, selection of textbooks, schoolroom decoration, finances, publicity, exhibitions, and the annual report.

476. LEMOS, PEDRO J. *The Art Teacher:* A Book for Children and Teachers. Worcester, Massachusetts: Davis Press, 1931. Pp. 492.

A compilation of noteworthy exercises and projects in art contributed by leaders of art education from all parts of the United States. Material organized to fit the various abilities of children from grade to grade. All phases of the art curriculum are covered with profuse illustrations and accompanying text. An indispensable guide for art teachers in the elementary school.

477. PELIKAN, ALFRED G. *The Art of the Child.* Milwaukee, Wisconsin: Bruce Publishing Co., 1931. Pp. 124.

An honest and sincere study of the child's responses in the field of art expression. The author clearly presents two dominant phases of art as practiced by the child: (1) the free expression of ideas in pictorial form and (2) expression by means of the manipulation of paints, dyes, and other obtainable media. Both pure spontaneous expression and correlation of art as a motivating force for other subjects are considered. The aim of all work presented is to enrich other subjects, to develop good taste, to foster appreciation, and to aid in the discovery of special talent.

478. SMITH, J. B. "Trends of Thought in Art Education," *School Review,* XLI (April, 1933), 266–77.

A survey of the trends of thought in art education during the past forty years. Presents theories of leading art educators and their influence on the development of art as a subject in the public school. Objectives, content of the art curriculum, fundamentals of art, and special art activities are critically analyzed.

479. *The Story of Writing.* Achievements of Civilization, No. 1. Chicago: Committee on Materials of Instruction of the American Council on Education (5835 Kimbark Avenue), 1932. Pp. 64.

A highly interesting booklet furnishing basic informational reading to be used in connection with courses or units taught in elementary and high schools. Its purpose is to encourage the library method of teaching, to stimulate pupils to read extensively and independently, and to acquaint pupils with the factor of social co-operation in human affairs. This booklet and its type of approach to the acquiring of worth-while knowledge will be extremely helpful to art teachers in the educational adjustment of their subject.

480. TODD, JESSIE, and GALE, ANN VAN NICE. *Enjoyment and Use of Art in the Elementary School.* Chicago: University of Chicago Press, 1933. Pp. x+134.

A practical and refreshing handbook for the teacher and a stimulating textbook for the student of methods. The book describes classroom technique and curriculum material readily adaptable to elementary-school programs. Emphasis

throughout this book is on accomplishment of the children and the originality developed. Part I discusses activities which are primarily enjoyment, "just for fun." Part II presents problems which are useful.

481. WAYMACK, EUNICE HAMMER, and HENDRICKSON, GORDON. "Children's Reactions as a Basis for Teaching Picture Appreciation," *Elementary School Journal*, XXXIII (December, 1932), 268–76.

A summary of research conducted by the University of Cincinnati which investigated the responses to pictures of children in Grades IV, V, and VI. The study concludes that neither the makers of graded picture lists nor teachers in close contact with children determine the suitability of pictures for certain grades on the basis of actual child preference, apart from training.

INDUSTRIAL ARTS[1]

HOMER J. SMITH
University of Minnesota

482. BAWDEN, WILLIAM T. (Editor). *Industrial Education Magazine*, XXXIII (April, 1932), 253–76. Seventh Annual Equipment Number.

Editorial comment on equipment as it affects teaching efficiency. Articles by leaders on equipment and layouts for school shops. Describes sample tool kits for home use with varying purposes and costs. Shop projects, field notes, and much illustrated advertising.

483. BRISTOW, W. H. (Chairman). *Junior-Senior High School Clearing House*, VII (November, 1932), 131–87. Industrial Education Number.

This special number is given largely to discussion of aims and trends in industrial education. Both industrial arts and vocational education are included. Among the contributors are the following well-known writers in the special field: Elmer W. Christy, P. L. Cressman, Maris M. Proffitt, and G. D. Whitney.

484. CARLSEN, RICHARD M. "Organization of an Intermediate School Drafting Room," *Industrial Arts and Vocational Education*, XXI (June, 1932), 180–82.

Suggests arrangement of room, organization of pupil groups, and details of daily or period procedure. Should be particularly helpful to new teachers and to those now confronted with classes larger than those to which they are accustomed. Based on two years' trial and developments in a Detroit intermediate school.

485. CRAMLET, ROSS C., and HUNTER, WILLIAM L. "Operating on a Reduced Budget," *Industrial Arts and Vocational Education*, XXII (September, 1933), 271–72.

A list of 102 specific suggestions for securing financial economy in the conduct of shop work. Every industrial teacher who examines these two pages will be

[1] See also Item 155 in the list of selected references appearing in the May, 1933, number of the *Elementary School Journal*.

rewarded by finding avenues of saving. If all directions here given cannot be carried out, others will come to mind by association.

486. ERICSON, EMANUEL E. "Pitfalls for Shop Teachers," *Industrial Education Magazine*, XXXIII (June, 1932), 312.

A single page of worth-while suggestions to teachers of industrial subjects. Brief treatments of seven success factors held in mind by superintendents and principals when judging men and departments.

487. ERICSON, EMANUEL E. "Why Teachers Fail," *Industrial Education Magazine*, XXXIV (May, 1933), 180.

A thought-provoking discussion of reasons for failure of many teachers.

488. GUNTHER, THERESA CHARLOTTE. *Manipulative Participation in the Study of Elementary Industrial Arts*. Teachers College Contributions to Education, No. 490. New York: Teachers College, Columbia University, 1932. Pp. 58.

Record of a detailed study with children from four grades in five selected schools. The procedure of experimentation is clearly described, and sample tests are shown. The report, though statistical, is plainly summarized. Children acquire more facts and show greater retention when manipulative participation is made a part of the teaching plan. The educational quotient seems not to be a determining factor.

489. MANZER, EMERSON WM. "Visual Instruction in Industrial-Arts Education," *Industrial Arts and Vocational Education*, XXI (August, 1932), 233–35.

Suggests that knowledge gained by pupils from their shop experiences must be supplemented by lectures and especially by the use of visual materials. Offers help in motivation and integration. Lists sources of industrial films.

490. MOSSMAN, LOIS COFFEY. "A Recent Tendency in Industrial Arts," *Bulletin of the Department of Elementary School Principals*, XI (July, 1932), 629–30.

Abstract of a paper offered as part of "A Symposium on Trends in Elementary Education." Stresses increasing use of first-hand experiences in regular classrooms as opposed to the concept of industrial arts as a special subject at this level. Suggests that present-day teaching "units" have to do with things of common usage based on industrial products. Points out approved methods and procedures and asks that construction be given less emphasis. The work should result in richness and vitality of experience, should be social in its aims, and may well be called "industrial study" because of its informational aspect.

491. ROLLER, JOHN B. "Industrial Arts Education in Elementary Schools," *Virginia Journal of Education*, XXVI (October, 1932), 45–46.

Lists the requirements that justify the inclusion of industrial arts in the elementary-school curriculum and urges each teacher to "select from the wealth of material offered that part which he can use well and can relate to the life of the group of children being taught, their mothers and fathers, their uncles and aunts and cousins."

492. SELVIDGE, ROBERT W. "Success Factors in Teaching," *Industrial Education Magazine*, XXXIII (June, 1932), 305–6.

A statement concerning matters other than the physical. Thirteen "General Personal Factors" and twenty-two "Professional Factors" are listed. Directness, brevity, and clarity characterize these lists of hints for the industrial teacher who seeks high rating among his kind or among classroom instructors in general.

HOME ECONOMICS

BEULAH I. COON
Federal Board for Vocational Education

493. CUNNINGHAM, BESS V., and CONNOR, RUTH. "Suggested Experiments in the Field of Pre-Parental Education," *Teachers College Record*, XXXIV (January, 1933), 285–301.

Topics which pupils in Grades VII–XII wished to discuss were collected and classified, showing grade and sex differences for more than two thousand papers. Content in home and family topics for different grades is suggested as a basis for further experimentation.

494. CUNNINGHAM, ELIZABETH MECHEM. "The Measurement of Attitudes toward Nursery Schools," *Abstracts of Dissertations and Theses in Education, 1931–1932*, pp. 41–42. Bureau of Educational Reference and Research Monograph No. 2. Ann Arbor, Michigan: University of Michigan, 1933.

Forms A and B of a psycho-physical scale for measuring social attitudes, particularly those relating to nursery schools, were developed. The scale was tested for reliability and validity with seven groups composed of classes in education, psychology, and sociology at the University of Michigan. The scale was found to be most reliable with groups in which the range of attitudes was wide.

495. EDSON, NEWELL W. "Teaching Family Relations," *Journal of Home Economics*, XXV (March, 1933), 188–94.

The three important relations of significance to the growing child are listed, and five important considerations in teaching these relations are discussed.

496. GILCHRIST, MARY ANN. "A Survey of Occupational Information Material in the Field of Home Economics," *Abstracts of Dissertations and Theses in Education, 1931–1932*, pp. 47–48. Bureau of Educational Reference and Research Monograph No. 2. Ann Arbor, Michigan: University of Michigan, 1933.

An annotated bibliography of books and magazine articles published since 1920 which give information for teachers and counselors of girls regarding the vocations for girls and women trained in home economics.

497. HANNA, PAUL R. "Adjusting the Home Economics Program to the Present Economic Situation," *Teachers College Record*, XXXIV (February, 1933), 386–97.

Some important directions for home-economics training in the present reconstruction of society are set forth as vital. Education for home and family life as it is being reconstructed at present is necessary for boys as well as for girls and presents five important challenges to home economists.

498. MCCARTHY, DOROTHEA. "The Nursery School and the Social Development of the Child," *Journal of Home Economics*, XXV (January, 1933), 13–18.

Some recent studies are reviewed showing the place of the nursery school in assisting with the social growth of the preschool child, especially where opportunities are provided for co-operation with parents.

499. MCGINNIS, ESTHER, and KEEVER, AURA I. "Child Development and Home Economics in Minnesota," *Practical Home Economics*, XI (June, 1933), 171–73, 186–87.

A sampling of schools in Minnesota was surveyed to determine what work in child development was offered, where it was offered, how it was given, and what books were used. The article includes an annotated bibliography.

500. MARTIN, ETHEL AUSTIN. "The School Lunch as a Health Agency," *Practical Home Economics*, XI (April, 1933), 113–15.

Describes the possibilities of improving the food and other health habits of pupils through making a survey of conditions and following the survey with an educational program.

501. MARTIN, ETHEL AUSTIN, and DAVISON, M. LUCILLE. "Health Education in the Public Schools of Akron, Ohio," *Journal of Home Economics*, XXIV (November, 1932), 967–73.

A description of the experimental plan used for teaching health in those elementary schools where no lunchroom exists.

502. MINNESOTA STATE DEPARTMENT OF EDUCATION. *Home Economics for Junior and Senior High School Periods*. State Department of Education Bulletin No. C-7. St. Paul, Minnesota: State Department of Education, 1933. Pp. 204.

Sets up a four-year course of study beginning in Grade VII. Three surveys were made of home duties and activities of girls, equipment in the home, and courses in the public schools as a basis for content in the syllabi.

503. PINKNEY, JEANIE M., and OTHERS. *A Health Instruction Guide for Elementary School Teachers*. Austin, Texas: Bureau of Nutrition and Health Education, Division of Extension, University of Texas, 1932. Pp. 368.

Contains the results of selected studies of authorities in child care and health. These studies are summarized, and objectives dealing with food and other health habits, control of communicable diseases, safety and first aid, and mental and social hygiene are set up for each grade.

504. RINGLE, MARIE P. "Graded Difficulties in Teaching Foods," *Practical Home Economics*, XI (June, 1933), 166, 190.

Gives a brief description of the bases for three successive courses in foods, each course being more difficult than the preceding course.

505. *A Statistical Survey of Home Economics in the Public Schools of the United States, 1931–1932*. New York: Policyholders Service Bureau, Metropolitan Life Insurance Co.

Questionnaire returns from 80,644 elementary and high schools show the enrolment in courses in home economics. These are separated by cities, counties, and states.

506. SUTCLIFFE, DORIS K. "Hot School Lunches in Rural Rhode Island," *Practical Home Economics*, XI (July, 1933), 207–8.

Describes the plans by which a few rural schools have made possible hot lunches for the pupils.

507. WINCHELL, CORA M. "Home Activities for General Education in an Integrated School Program," *Practical Home Economics*, X (December, 1932), 381, 398.

Describes the possibilities of making home living and homemaking a vital part of an integrated program developing ideals and concepts important in daily life.

508. WINCHELL, JESSIE A. "How Home Economics in the Public Schools Is Adjusting to Emergency Conditions," *Journal of Home Economics*, XXV (February, 1933), 104–8.

The reports from twenty cities are summarized showing the problems and the methods of solution in making adjustments to the present financial stringency in schools and homes.

509. ZUILL, FRANCES. "The Factors Involved in the Appraisal of Home Economics," *Journal of Home Economics*, XXV (February, 1933), 96–103.

Eight points on which home economics may be appraised by the public are briefly described.

LIBRARY TRAINING

EVANGELINE COLBURN

The following references on library training in the elementary school were selected from material published between April 1, 1932, and May 1, 1933. Because of their general nature, these cannot well be grouped under specific headings. The literature indicates that the idea of the elementary-school library is generally accepted. Its need is realized, but the library is still in the experimental stage. The dominant ideas presented in recent articles on the school library are: (1) The elementary-school library should be the center of the school's activities rather than a repository for books. (2) Training

is designed, not only for present educational needs, but to fit pupils for use of libraries in adult life. (3) The library must be fitted to the school's own needs.

510. BAILEY, LAURA C. "Fitting the Library to the School," *Educational Method*, XII (October, 1932), 1–8.

A paper read at a meeting of the American Library Association in New Haven, June, 1931. Discusses the elementary-school library as an integral part of the child-centered school and describes methods of introducing lessons on library technique. Uses made of the library, library tools, etc., are also discussed.

511. EATON, ANNE T. "Classroom Activities and the School Library," *School Library Experience*, 2d Series, pp. 211–19. New York: H. W. Wilson Co., 1932.

A thorough discussion of the utilitarian ways in which the school library aids classroom activities in all grades, not excepting the first. Presents specific examples of training children to use materials. Enumerates general tools and helps which the library provides.

512. HARGER, LENA L. "Using the Library," *Minnesota Journal of Education*, XIII (March, 1933), 245–46.

An example of co-operation of the public library with the school. Describes an experiment in the Sidney Pratt School of Minneapolis, where the public library established a station. Activities and results listed.

513. HENDERSON, FRANK D. "A School-Community Library Project," *The Principal and His Community*, pp. 329–31. Eleventh Yearbook of the Department of Elementary School Principals of the National Education Association. Washington: Department of Elementary School Principals of the National Education Association, 1932.

A specific example of fitting a library to the needs of a school in an industrial district where many foreigners were employed.

514. KENT, CHARLES A. "Organizing a Library in an Elementary School," *School Library Experience*, 2d Series, pp. 228–39. New York: H. W. Wilson Co., 1932.

Presents the school-library problem and objectives. Discusses the purposes, equipment, and location of the library, and its place in the education of boys and girls.

515. KOOS, MRS. FRANK H. "Planning a School Library Program," *Wilson Bulletin*, VI (June, 1932), 679–83.

A thorough and comprehensive discussion of the elementary-school library, which stresses the importance of studying the particular needs of a school before planning its library.

516. LATHROP, EDITH A. "Elementary School Library Service as It Is and Should Be," *American Library Association Bulletin*, XXVI (July, 1932), 436–41.

A thorough discussion of library service in all classes of elementary schools. Presents problems for research in the field and shows the relation of the school library to modern trends in education.

517. PRITCHARD, MARTHA CAROLINE. "The Elementary School Library Hour," *School Library Experience*, 2d Series, pp. 270–85. New York: H. W. Wilson Co., 1932.

A summary of the replies by teachers to a questionnaire concerning methods of handling groups in library periods. Routine procedures in different schools are described.

518. WOFFORD, AZILE M. "Bridging the Gap," *Library Journal*, LVII (October 1, 1932), 813.

Defines the purposes of the school library and briefly discusses ways of accomplishing these purposes.

PHYSICAL EDUCATION

L. B. SHARP

519. BLANCHARD, V. S. "Guiding Principles in Teacher Training from a Public School Point of View," *Research Quarterly of the American Physical Education Association*, III (May, 1932), 80–92.

A determination of the guiding principles in teacher training by the use of a questionnaire sent to teachers to discover whether they were sufficiently prepared to teach the subjects which they were required to teach.

520. HANSSON, K. G. "Position in Physical Therapy," *Physiotherapy Review*, XII (May–June, 1932), 133–36.

The conclusion is reached that it is easier to prevent physical deformities than to correct them. Prevention demands that various parts of the body have a favored position in which they must be placed.

521. HOAR, FRANKLIN B. "A Compilation of Visual Aids for Health and Physical Education," *Journal of Health and Physical Education*, III (April, 1932), 40–42, 54.

Lists visual aids for twelve phases of health education and nine phases of physical education.

522. MILLER, GEORGE F. "Pupil Posture and School Seating," *School and Society*, XXXVI (September 17, 1932), 371–73.

Questions the soundness of many of the present views on posture and school seating. The author says, "How can intelligent salesmen of school furniture keep from laughing up their sleeves at the bunk about seating and posture they impose on the schools?"

523. REDDEN, W. R. "Control of Ringworm Infection of the Feet," *Research Quarterly of the American Physical Education Association*, III (May, 1932), 73–80.

A discussion on the control of ringworm and recommendations for personal hygiene.

524. ROGERS, JAMES EDWARD. *The Child and Play*. New York: Century Co., 1932. Pp. 206.

Based on reports of the White House Conference on Child Health and Protection with references to needs, facilities, and values of play.

525. SCHWENDENER, NORMA. *Game Preferences of 10,000 Fourth Grade Children*. New York: Norma Schwendener (Teachers College, Columbia University), 1932. Pp. 60.

A study of game preferences of ten thousand fourth-grade children which shows that no sex differences nor differences caused by climate and season appear in the choices of games.

526. WILLIAMS, JESSE FEIRING. "Cultural Aspects of Physical Education," *Journal of Health and Physical Education*, III (November, 1932), 20–23.

Describes how physical education as a complete program contributes to the culture of our people through self-expression in play, skills used in leisure, and recreation as a worthy phase of fine living.

527. WILLIAMS, JESSE FEIRING, DAMBACH, JOHN I., and SCHWENDENER, NORMA. *Methods in Physical Education*. Philadelphia: W. B. Saunders Co., 1932. Pp. 222.

Ranges from discussion of the use of music in primary grades to descriptions of methods in teaching swimming, gymnastics, dancing, and athletics. Discipline, drill, rewards and punishments, leadership, and efficiency in classwork are considered.

Educational Writings

REVIEWS AND BOOK NOTES

A history of school support during periods of economic depression.—A new book[1] presents, in fifty-nine tables, the facts about school incomes from various sources and about school expenditures, especially expenditures for salaries, together with figures on attendance at schools during the major business recessions in the United States for the last hundred years. The depressions of 1837, 1857, the 1870's, the 1890's, 1907, and 1921 are thus studied. From this array of data the general conclusion is that, since previous depressions have not materially or for long periods interfered with the progress and expansion of the American school system, we may and ought to expect a similar outcome of the present stagnation of business. Perhaps so, but this sort of historical argument presupposes that the present conditions are essentially like those of the past.

Let us see whether this supposition is a fact. We do not now have vast public lands for free settlement. There are no railroads to build, no untapped natural resources to exploit, no great foreign markets to open up and to supply. We are no longer living in an expanding country with its voracious economic hungers. Any comparison between depressions should be based on a careful analysis of these and other differentia. The book under review fails to make any such analyses, and its assumption that the economic ills of 1933 are of the same nature as those of other days seems to be contrary to fact.

The educational situation, then and now, should also receive attention. When teachers' salaries were close to the level of bare subsistence and when the schools taught the rudiments only, it was impossible to make large reductions in costs without closing the schools altogether. That situation existed one hundred, even forty, years ago. Again, in several earlier depressions it was possible to replace men with women as teachers at a considerable saving in salary. Without a doubt, the feminization of the teaching profession has an economic basis and bears directly on the interpretation of these figures.

Furthermore, the tables presented in this book seem to show a fairly decided drop in salaries even in previous depressions. There is not space to consider the whole series; two examples must suffice. Consider the salaries of men and of

[1] Royce Stanley Pitkin, *Public School Support in the United States during Periods of Economic Depression*. Brattleboro, Vermont: Stephen Daye Press, 1933. Pp. 144. $1.50.

women given by states for the depression years of the 1890's in Tables 47 and 48. Table 47 shows that, on an average, the salaries of men were in 1897 and 1898 at their lowest point—about 14 per cent or 15 per cent below the highest preceding point of the decade. The "lows" are found chiefly in the two years named, and in no state do the salaries fail to reflect the decline in prosperity. It is true that by 1899 and 1900 a slight upturn in monthly salaries took place; by comparing the salaries of 1900, when the depression was over, with those of 1892, when it had not yet begun, the author is able to show an increase of salaries for the decade of 2.4 per cent. Table 48 shows that the salaries of women declined hardly at all, but it does not show how many women replaced men in the staffs of the schools.

Finally, educational statistics during the nineteenth century were gathered upon varying and often very different bases in the different states, and any study of these statistics should recognize this fundamental fact.

The American people, having never been carefully informed about the work and the purpose of their expanding schools in a changing society, think they see that very considerable savings can be made without ruining the schools. Certain classes of our people would even contemplate with complacency the complete ruin of the public schools. At all events, the schools are not being treated and are not going to be treated in this depression as they were in previous crises.

H. G. Good

Ohio State University

Analysis of courses in educational measurements.—In recent years there has been a tendency to analyze the content of courses offered at the professional educational level. In the study under review[1] an attempt is made to analyze the offering in the field of educational measurements. The study is limited to the offerings for teachers of the elementary school.

The author presents evidence that the measurement movement has had a large development by analyzing normal-school catalogues, by citing the publication of seventy-five books on this topic from 1911 to 1930, and by giving the percentages of articles on measurement appearing in 1929–30 in four magazines.

The author's first attempt to determine the content of courses in educational measurements was made by analyzing ten widely-used textbooks in this field. The ten books were selected on the basis of the author's judgment as being the ten volumes most frequently used as textbooks. It is hard to conceive of any justifiable reason for using the judgment of a single person to determine widespread use of textbooks. Certainly much better methods are available. It so happened that the ten textbooks selected were the most widely used in the normal schools included in the thesis. It would have been rather distressing if this

[1] Maxwell G. Park, *Training in Objective Educational Measurements for Elementary School Teachers.* Teachers College Contributions to Education, No. 520. New York: Teachers College, Columbia University, 1932. Pp. vi+100. $1.50.

coincidence had not occurred. The most significant finding in this part of the study is the lack of uniformity of the topics included in the ten books. Only about 20 per cent of the topics were contained in as many as five of the ten books. A rather detailed list of topics was formulated.

The analysis of textbooks was used as a check list which was sent to 125 teachers of educational measurements in state normal schools. The teachers were asked to rank each of the topics on the following numerical scale. 1, if considered of major importance; 2, if considered of average importance; 3, if considered of minor importance; 4, if the item should be omitted. Seventy-three of the schools sent in returns. Of the 169 subtopics listed, 8 per cent were recommended for omission. The data also reveal a high degree of similarity in the topics included in the introductory course in educational measurements offered in seventy-three state normal schools.

A second part of the inquiry was addressed to teachers of educational measurements and had reference to such questions as prerequisites for the course, major functions, textbooks and references used, test material used, and difficulties and problems encountered. Sixty schools made returns. The most significant finding in this part of the study is the section dealing with the general functions of the introductory course in educational measurements. Thirty-seven different functions are mentioned. The ability to improve teaching and learning through diagnostic measurement was mentioned most frequently (thirty-three times); acquaintance with achievement tests was mentioned twenty-nine times. The frequency of mention of other functions ranged from eighteen to one. Six functions were mentioned only once, while nine others were suggested by only two persons. In some quarters there has been a tendency to criticize subject-matter teachers for lack of agreement as to outcomes of teaching; the data in this study suggest that perhaps some persons living in glass houses have been casting stones.

A third questionnaire was sent to 133 teachers of reading, arithmetic, and music in normal schools. Forty-four teachers of arithmetic replied, thirty-five teachers of music, and thirty-nine teachers of reading. Questions somewhat similar to those asked the teachers of the course in measurements were asked the teachers of the methods courses. Not much confidence is to be placed in the results of this section, as the number of returns for each of the separate subjects is small. However, the results are exactly what would be expected. These teachers of methods think that they ought to teach their students about measurements, and certain questions revealed that these teachers do not know any too much about the field of measurements. Forty-one per cent of the group admitted that they had not examined a syllabus of the educational-measurement course. The outcomes on which the teachers of measurement placed most emphasis were ranked low by the teachers of methods. This situation reveals one of the weaknesses in teacher training, namely, lack of co-operation in determination of the purposes and the procedures on the part of the persons responsible for the training of teachers.

The last chapter includes a condensed summary of thirty-three statements, nineteen guiding hypotheses and principles, and a proposed teacher-training program in educational measurements. The guiding principles impress one as a summary of the author's opinions rather than an epitome of the findings of the study. Each topic in the outline is given a weighting based on the judgments of teachers. However, the author states that a few items ranking a little above or below rank 2.5 were included or left out as the writer deemed best. Such a procedure reduces somewhat the value of the outline.

The information contained in such a study is worth having and will probably prove of some value to teachers of educational measurements. Certain techniques and procedures employed by the author lessen the scientific validity of the findings. If the generalizations made on the basis of the findings are not too broad, they will prove of limited value.

L. W. WEBB

NORTHWESTERN UNIVERSITY

Relation of reading to achievement in other subjects.—An important scientific study[1] of the relation of reading ability to achievement in other subjects in Grades IV, V, and VI has appeared. This investigation makes a contribution to the problem of discovering the factors accounting for the differences in children's achievement in comparison to mentality. The results indicate the importance of a certain minimum attainment in various reading functions.

The Stanford Revision of the Binet-Simon Intelligence Scale was used to measure mentality. The Modern School Achievement Tests in arithmetic, spelling, health knowledge, language usage, history and civics, geography, and science were used to obtain an achievement score. The reading tests used were the Modern School Achievement Tests, Level of Comprehension and Speed and Accuracy of Reading; Ingraham-Clark Diagnostic Reading, Parts I and II; Thorndike Test of Word Knowledge; the Gates Silent Reading Tests, Types A, B, C, and D; and Gray's Standardized Oral Reading Paragraphs. Complete results on all tests were obtained for 73 pupils in Grade IV, 63 pupils in Grade V, and 68 pupils in Grade VI, a total of 204 cases.

For each pupil the difference between the mental age and the achievement age (not including reading) was obtained. The difference is positive when the achievement is greater than the mental age and negative when it is less. This difference is called the achieving difference. The higher the intelligence quotient, the lower the achieving difference tended to be. Consequently, the effect of intelligence was eliminated mechanically. By use of sigma scores an achieving index was obtained for each child, which was used as his individual score throughout the study.

[1] Dorris May Lee, *The Importance of Reading for Achieving in Grades Four, Five, and Six*. Teachers College Contributions to Education, No. 556. New York: Teachers College, Columbia University, 1933. Pp. viii+64. $1.50.

Correlations between scores on each reading test and achieving indices in each of Grades IV, V, and VI are presented. The correlations for Grade IV range from .382 to .663, with a median of about .59; for Grade V from −.046 to .515, with a median of about .42; and for Grade VI from −.006 to .239, with a median of about .15. The important observation is that the correlations decrease sharply in regular order from Grade IV to Grade VI. A similar result is shown in correlations of achieving difference and certain of the reading tests. Correlations between reading scores and mental age show an average of .20 in Grade IV and .50 in Grade VI. The correlations between reading scores and intelligence quotients show no definite trends and in most cases are considerably below .50. Correlations between reading scores and achievement scores show an average of .80 in Grade IV, .60 in Grade V, and .67 in Grade VI. The author says, "These correlations cannot in any way answer the question proposed in the present study" (p. 25).

"The problem now resolves itself into finding a satisfactory explanation of the decided drop in the correlations of reading and the achieving index through the grades" (p. 26). Various hypotheses were studied. Finally, the author presents a mass of data to show what she considers one of the important points of the study, namely, that a beginning fourth-grade attainment in each of various reading functions is practically an essential to satisfactory achievement in Grades IV–VI. She points out that teachers should not despair over low reading ability, even in a sixth-grade class, as long as the reading ability is above this critical level.

The following are some other conclusions: Pupils having one or more reading scores below the fourth-grade standard are likely to be low in achievement. Pupils low in achievement because of low reading ability can be detected fairly well by selected batteries of reading tests so assembled as to give a balanced and effective testing program. There is no reading ability so high that it insures a high achieving index, as is shown by the fact that some of the highest reading scores were made by children low in achievement.

Experienced administrators will be likely to question some of the author's statements of educational implications, such as the following: "As a result of this diagnostic testing [speed, accuracy, level of comprehension, following directions, vocabulary, and oral reading] the school should be fairly certain that every child beginning in the fourth grade has a reading ability equal to the grade norm of 4.0" (p. 60). While much can be done to prevent serious retardation in reading in the first three grades, such a rigid requirement can hardly be met without an undesirable amount of non-promotion.

A possible weakness of the study lies in the lack of adequate reliability of some of the measuring instruments, and the author recognizes the importance of this feature. In the table of information concerning the tests (p. 4) the author reports that reliability data are not available for the oral-reading test and for the measures of speed and accuracy of reading. Of the fifty-four reliability coefficients given, one is below .70, eleven are below .80, and twenty-eight are below

.90. The test for measuring speed and accuracy of reading is a paragraph test and permits re-reading. In the reviewer's opinion, a measure of rate and comprehension in straightforward story-reading should have been included.

The author made no study of the relation of reading ability to achievement on specific tests. For example, it would be of value to know the relative importance of reading ability in arithmetic reasoning and computation.

The investigator has produced an interesting and significant study. Further studies along this line are needed to check the validity of the findings.

CLARENCE R. STONE

EXTENSION DIVISION, UNIVERSITY OF CALIFORNIA

An eye-movement study of spelling.—The photography of the behavior of eye-movements has become one of the most meticulous methods of investigation in the field of educational psychology. This technique has already been thoroughly applied to the study of reading and arithmetic. It has recently been employed to analyze the movements of the eyes in learning to spell words. Like many similar studies, this investigation[1] is a product of the laboratories of the School of Education at the University of Chicago.

The layman insisting on practical outcomes for educational research may dismiss the eye-movement technique as absurdly irrelevant for the study of spelling. In defense it should be pointed out that the movements of the eyes are not important per se but that they are significant because they are indicative of the mental processes of the subject. If the movements are accurately measured, they constitute a precise record of important phases of perception manifested in such processes as reading, arithmetic, and spelling.

Sixty-seven subjects were used in the investigation. Three were university students, thirty-two were high-school pupils, and thirty-two were pupils in Grades III–VI of an elementary school. At each academic level an equal number of good and poor spellers were selected on the basis of a fifty-word test. Three sets of five words each were selected for the investigation itself: one set for the high-school and college students; one set for the fourth-, fifth-, and sixth-grade pupils; and one set for the third-grade pupils. Space does not permit a description of the operation of the apparatus and the actual conduct of the experimentation. However, it should be pointed out that the apparatus of this investigation provides perhaps the most scrupulous measurement ever employed in the study of educational problems. This precision affords an excellent opportunity for minute analysis, and such an analysis the author of the monograph has presented with amazing detail in forty-six figures and thirty-four tables.

A summary of the findings of the investigation indicates that, for the good

[1] Luther C. Gilbert, *An Experimental Investigation of Eye Movements in Learning To Spell Words*. Psychological Monographs, Vol. XLIII, No. 3. Princeton, New Jersey: Psychological Review Co., 1932. Pp. viii+82.

speller as contrasted with the poor speller, the average number and duration of fixations are less, the fixation pause lengths are more regular, the study unit of the word is broader, and there are fewer regressive movements. The investigation further shows that, typically, the good speller learns to differentiate between easy and hard portions of a word, easy portions being dismissed with little more than a mere identification reaction while hard sections are analyzed for the purpose of clearing up difficulties. The poor spellers fail to develop effective methods of analysis. "Easy spots are apt to receive minute attention; hard spots may be ignored. The study is apt to be irregular, detailed, distributed without reference to the individual's needs" (p. 79).

The author of the monograph interprets the results of the investigation as demonstrating the need for a method of instruction which should develop a systematic attack upon words. The emphasis in study should be placed on the identification and the analysis of those sections of the word which are difficult, the amount of analysis depending on the extent of difficulty which the situation presents. The author is also so impressed with the presence of individual differences that he regards it as undesirable for the teacher to be too general in her direction of the analysis of a word. "Each pupil should be trained to detect and correct his own errors" (p. 80).

The foregoing statements constitute sufficient evidence for the statement that an elaborate and precise method such as that employed in this investigation justifies itself, not only from the point of view of refined experimental procedure, but also from the point of view of practical outcomes. While this monograph will be of primary interest to the student of experimental education, nevertheless the conclusions reached, if given the attention which they deserve, should be instrumental in bringing about important modifications in the teaching of spelling.

HOWARD Y. MCCLUSKY

UNIVERSITY OF MICHIGAN

A non-reading curriculum for the first grade.—The first grade is usually thought of as the grade in which children learn to read or an effort is made to teach them to read. Great strides in the teaching of this subject have been made in the past few years. Numerous investigations and a vast amount of literature on the subject have called attention to the fact that entrance into the first grade is not infallible evidence of readiness to read. The shockingly long list of failures has demonstrated that something more is needed than promotion from the kindergarten, ready-made reading systems, and conscientious teachers. Educators have begun to see that a preparation in the form of rich and varied experiences and a development of strong motives for and deep interests in reading are prerequisite to the development of habits and skills and are as fundamental as this development.

Recently a first-grade teacher in the Lincoln School of Teachers College, Columbia University, planned and carried on a non-reading curriculum in her

first grade and has published a report of her work.[1] This teacher believes that the act of reading takes place most successfully when there is in the mind of the child a rich store of well-defined concepts of the things read about. When the child has accumulated experience after experience through the activities demanded by his muscles and senses in investigating the world about him, he brings just so many more vivid and meaningful associations to the complex, abstract, symbolic study of reading. He has added power to grasp the subject matter more easily and to retain it because of the many eye and ear and muscle associations connected with it. These associations serve him in good stead in schools in which reading is no longer taught as a matter of learning sounds or letters but, from the beginning, as a thought-getting process.

"Readiness for reading also develops," says the author "through much use of and interest in language, through discussions and conversation, through listening to stories and verse and lingering over vivid, unique, or beautiful phrasing" and "through originating one's own stories and verse and plays" (p. 204).

A First Grade at Work is the record, based largely on classroom notes, of the way in which the program developed from day to day and of the manner in which this teacher tried to insure happy, full living together in these developing children, attempted to provide for reading readiness, and tried to build other necessary and desirable habits and attitudes.

In this experiment Miss Wright attempted to answer the following questions as she worked with twenty-four children through the first, second, and third grades.

Do the vast majority of children at six, because of their physical, emotional, social, and intellectual immaturity and because of their comparative ignorance of the environment in which they must live and work and spend their leisure, still need all or most of their time for exploring, investigating, experimenting, and *living* in company with their fellows and with suitable guides? Will they gain the most power and control over their environment and over themselves if their time continues to be spent largely in such activities and in organizing the knowledge and information they are gaining thereby, through using the many concrete materials at hand rather than through the abstract use of symbols? Is it important for the present and for the potential development of the personalities-to-be that, before they become largely involved and dependent upon the findings and imaginings of other people, they accumulate a vast stock of first-hand experiences and learn to value knowledge based on such related experiences? Would the quest for knowledge be hindered at this stage by the lack of tools of reading and writing? . . . .

If we perhaps agreed tentatively that reading and writing are not necessarily the essential "daily bread" of six-year-olds, we still have to consider that at some period of the children's development there must be a mastery of these skills if they are to make use of what the world has to offer them. If they did not start early to acquire a mastery of these tools, would there be a slowing-up of the educative process? Or by delaying

[1] Lula E. Wright, *A First Grade at Work:* A Non-Reading Curriculum (Units of Work). Lincoln School Curriculum Studies. New York: Lincoln School of Teachers College, Columbia University, 1932. Pp. xii+248.

reading until there was greater maturity and a larger fund of experience to build on, would reading and writing be learned with greater economy of time and effort, and valuable experiences in the creative arts and the social sciences be allowed to take the place of the usual repetition and drill on symbols? [Pp. 2–3.]

As it proved administratively impossible to carry on the controlled experiment which had been planned, Miss Wright was unable to set forth any definite results. However, she makes some evaluations of the program:

A background of experiences involving some of the geography, civics, science, and history of their environment was being built up. . . . .

Much opportunity for creative reorganization of thought and for dramatic expression was given through music and rhythm, language, and dramatic play, through the fine arts, through building and through play with blocks [p. 196].

The children learned some of the social art of adjusting themselves to their playmates and co-workers [p. 198].

All but three or four of the children responded to the introduction and study of reading [in the second year] with pleasure, and a few of them with eagerness. But interests in industrial arts and science, in language and dramatic play had been developed to such a degree in the preceding years that the activities which contributed to or satisfied these interests [in the second and third years] took up so much time it was difficult to provide for even the daily half-hour reading period. The children progressed at their own individual rates in reading, some of them advancing rapidly, others slowly [p. 207].

The book leaves the reviewer with many questions with respect to the progress of these children. In fact, the questions which Miss Wright hoped to be able to answer as a result of her study remain unanswered. There can be no doubt of the value of the rich program provided for the children and while first-grade teachers everywhere will be happy to read this interesting account of the thrilling experiences of a group of children who were not prematurely forced into reading, they will feel that the children were deprived of a great deal of real enjoyment when these experiences were not tied up with reading. It seems that a stage which had been so well set for reading should have been used while the scenery was fresh. Instead, the children waited an entire year to use their experiences as the content of their reading. Children forget a great deal in a year. The vividness of many of the activities and the enthusiasm of the children must have been lost in many cases by the delay in using the experiences. Miss Wright says, "We must remind ourselves that reading is only one out of the many avenues of approach to learning" (p. 3). This is true, but, since reading is *one* of the avenues to learning, it should not be entirely neglected. A balanced program, which this teacher desired for her children, should make use of every possible approach to learning instead of studiously avoiding two of those which children enjoy using, namely, reading and writing.

ADA R. POLKINGHORNE

A reference book in science for the upper grades.—Readable and interesting reference books in science for boys and girls in elementary schools are much needed.

One of the final volumes published by the Century Company[1] is intended to meet that need and is particularly suitable for children of the upper elementary or junior high school grades. Older pupils may also get much information and pleasure from the non-technical, conversational, and narrative descriptions included.

Part I, "The Story of the Earth," contains thirteen chapters describing, in the light of present scientific knowledge, how the earth was probably formed; the subsequent processes of nature which have brought it to its present state with mountains, valleys, plains, oceans, rivers, and so on; and the beginning and evolution of forms of life, including man.

Part II, "Neighbors in the Sky," contains nineteen chapters describing an imaginary trip to the sun, with stops at Mercury and Venus, and a narrow escape from collision with the moon; a second trip to the moon including an exciting ball game played there; explanations of eclipses of the sun and moon; a trip to Mars; and discussions of what we know about Jupiter, Saturn, the other planets (including Pluto), comets, and the asteroids.

Part III, "The Stars," contains twelve chapters telling about the great constellations and other solar systems, with interpolations of stories of how the constellations were given their names, and a concluding discussion of "Star Clocks and Mileposts."

Part IV, "How We Found Out These Things," contains fourteen chapters sketching the growth of scientific knowledge from Aristarchus and Aristotle, through Ptolemy, Copernicus, Galileo, and Newton to the present, supplemented by accounts of trips to the Grand Canyon of the Colorado and the Gobi Desert. The last mentioned are true accounts of the several trips of the Roy Chapman Andrews' parties in search of dinosaurs' bones and eggs. The next to the last chapter, "How Living Things Change," shows how Darwin came to develop his theory of evolution; and the last chapter, "What We Are Trying To Find Out," outlines some of the present problems of scientists.

This prosaic discussion does not give any adequate idea of the interesting style in which the book is written. The style is an outstanding characteristic and will not fail to make an appeal to large numbers of boys and girls. The imaginative character of a few of the chapters, especially the story of the trip to the sun, may possibly be a little jarring to the matter-of-fact individual because of the possible confusion of fact and fancy, but the descriptions are nevertheless interesting and instructive.

The book must be considered unusual. It raises the question of grade placement of science materials. One might question, for example, the ability of elementary-school pupils to understand some of the astronomical concepts presented, but this question is as yet an unsettled research problem. The authors

[1] Carleton Washburne and Heluiz Washburne, in collaboration with Frederick Reed, *The Story of Earth and Sky*. New York: Century Co., 1933. Pp. x+368. $3.50.

have undoubtedly succeeded in directing attention to an appreciation of the problems of the scientist and the attitudes which their solution demands. This result is perhaps a primary objective of the book, in the minds of the authors.

A. W. HURD

TEACHERS COLLEGE, COLUMBIA UNIVERSITY

CURRENT PUBLICATIONS RECEIVED

GENERAL EDUCATIONAL METHOD, HISTORY, THEORY AND PRACTICE

BLAKE, WILLIAM H. *A Preliminary Study of the Interpretation of Bodily Expression.* Teachers College Contributions to Education, No. 574. New York: Teachers College, Columbia University, 1933. Pp. vi+54. $1.50.

BROWN, MARION. *Leadership among High School Pupils:* A Study of Pupils Selected by Fellow Pupils to Positions of Leadership in a Certain High School. Teachers College Contributions to Education, No. 559. New York: Teachers College, Columbia University, 1933. Pp. viii+166. $1.75.

CLEMENSEN, JESSIE WILLIAMS. *Study Outlines in Physics:* Construction and Experimental Evaluation. Teachers College Contributions to Education, No. 553. New York: Teachers College, Columbia University, 1933. Pp. x+154. $1.75.

GRAY, WILLIAM S., with the assistance of GERTRUDE WHIPPLE. *Improving Instruction in Reading:* An Experimental Study. Supplementary Educational Monographs, No. 40. Chicago: Department of Education, University of Chicago, 1933. Pp. xiv+226. $1.75.

HISSONG, CLYDE, and HISSONG, MARY. *An Introduction to the Principles of Teaching.* Philadelphia: John C. Winston Co., 1933. Pp. xii+260. $2.00.

LINDSAY, J. ARMOUR. *Annual and Semi-annual Promotion:* With Special Reference to the Elementary School. Teachers College Contributions to Education, No. 570. New York: Teachers College, Columbia University, 1933. Pp. viii+170. $1.75.

Needed Readjustments in Higher Education. Edited by William S. Gray. Proceedings of the Institute for Administrative Officers of Higher Institutions, 1933, Vol. V. Chicago: University of Chicago Press, 1933. Pp. viii+284. $2.00.

POWELL, ORRIN E. *Educational Returns at Varying Expenditure Levels:* A Basis for Relating Expenditures to Outcomes in Education. Teachers College Contributions to Education, No. 573. New York: Teachers College, Columbia University, 1933. Pp. x+54. $1.50.

RETAN, GEORGE A. *Management and Teaching Technique in the Elementary School.* New York: Prentice-Hall, Inc., 1933. Pp. xx+370. $2.00.

Rethinking Supervision: A Cooperative Michigan Project. Sixth Yearbook of the Department of Elementary School Principals, Michigan Education Association. Lansing, Michigan: Michigan Education Association, 1933. Pp. 158.

ROBSON, BARBARA REID. *House Management Problems of Fraternities and Sororities:* An Investigation of the Supervision or Assistance Given by Educational Institutions to Fraternities and Sororities in Their House Management Problems. New York: Teachers College, Columbia University, 1933. Pp. 94.

RUSK, ROBERT R. *A History of Infant Education.* London: University of London Press, Ltd., 1933. Pp. viii+196.

SARAFIAN, KEVORK A. *French Educational Theorists.* Los Angeles, California: C. C. Crawford (University of Southern California), 1933. Pp. 134.

YOUNG, LLOYD PERCY. *The Administration of Merit-Type Teachers' Salary Schedules.* Teachers College Contributions to Education, No. 552. New York: Teachers College, Columbia University, 1933. Pp. x+104. $1.50.

BOOKS PRIMARILY FOR ELEMENTARY-SCHOOL TEACHERS AND PUPILS

BAXTER, TOMPSIE, and YOUNG, BESS M. *Ships and Navigation* (Units of Work). Lincoln School Curriculum Studies. New York: Lincoln School of Teachers College, Columbia University, 1933. Pp. xii+220.

Helping Children Experience the Realities of the Social Order: Social Studies in the Public Schools of Ann Arbor, Michigan. G. Robert Koopman, Chairman, Editorial Committee. Ann Arbor, Michigan: Board of Education, 1933. Pp. vi+308.

SMITH, J. RUSSELL. *Foreign Lands and Peoples.* Philadelphia: John C. Winston Co., 1933. Pp. viii+384. $1.44.

WAHLERT, JENNIE, and LEUTHEUSSER, A. O. *My Second Writing Book.* Chicago: Laurel Book Co., 1933. Pp. 64. $0.25.

PUBLICATIONS OF THE UNITED STATES OFFICE OF EDUCATION AND OTHER MATERIAL IN PAMPHLET FORM

Abstracts of Studies in Education at the Pennsylvania State College, Part III (1933). Edited by Charles C. Peters and George W. Hartmann. Penn State Studies in Education, No. 8. State College, Pennsylvania: School of Education, Pennsylvania State College, 1933. Pp. 80 (39 in miniature print). $0.50.

CHAMBERLAIN, LEO M., and MEECE, L. E. *The Graduate of the College of Education and the Depression.* Bulletin of the Bureau of School Service, Vol. VI, No. 1. Lexington, Kentucky: University of Kentucky, 1933. Pp. 38. $0.50.

Constants in the Secondary School. Report of a Sub-Committee of the Committee on Secondary School Problems of the Associated Academic Principals. Boonville, New York: Council of School Superintendents (David G. Allen, c/o High School), 1933. Pp. 30.

COOPER, JOHN ANDREW. *The Effect of Participation in Athletics upon Scholarship Measured by Achievement Tests.* Penn State Studies in Education, No. 7. State College, Pennsylvania: School of Education, Pennsylvania State College, 1933. Pp. 8+98 in miniature print. $0.10.

Fifth Annual Report of the Scottish Council for Research in Education, 1932–1933. Edinburgh, Scotland: Scottish Council for Research in Education, 1933. Pp. 16.

FRASIER, GEORGE WILLARD. *The Objectives of Higher Education in the Light of Contemporary Social Needs and Trends.* A Compilation of Three Addresses Delivered before the Hazen Conference on Student Guidance and Counseling. Greeley, Colorado: Colorado State Teachers College. Pp. 24. $0.25.

JORDAN, FLOYD. *The Social Composition of the Secondary Schools of the Southern States.* Contributions to Education Published under the Direction of George Peabody College for Teachers, No. 108. Nashville, Tennessee: George Peabody College for Teachers, 1933. Pp. xiv+102.

LEHMAN, HARVEY C., and STOKE, STUART M. *A Work Book in Educational Psychology.* New York: Prentice-Hall, Inc., 1933. Pp. x+152.

Recent issues of the Office of Education:

Bulletin No. 9, 1933—*National and State Cooperative High-School Testing Programs* by David Segel.

Pamphlet No. 36 (1933)—*Week-Day Religious Instruction:* Classes for Public-School Pupils Conducted on Released School Time, by Mary Dabney Davis.

Pamphlet No. 39 (1933)—*Laws Relating to the Releasing of Pupils from Public Schools for Religious Instruction* by Ward W. Keesecker.

SMITH, HENRY LESTER, and KRUEGER, LEVI MCKINLEY. *A Brief Summary of Literature on Leadership.* Bulletin of the School of Education, Indiana University, Vol. IX, No. 4. Bloomington, Indiana: Bureau of Co-operative Research, Indiana University School of Education, 1933. Pp. 80. $0.50.

MISCELLANEOUS PUBLICATIONS

Children's Catalog (Fourth Edition Revised). Third Supplement. Compiled by Minnie Earl Sears. New York: H. W. Wilson Co., 1933. Pp. vi+142. $0.90.

MASON, JOSEPHINE DWIGHT, and O'BRIEN, GERTRUDE E. *A Practical Reader for Adults*, Book Three. Boston: D. C. Heath & Co., 1933. Pp. viii+230. $1.12.

Standard Catalog for High School Libraries (Second Edition Revised). First Supplement. Edited by Minnie Earl Sears, Isabel S. Monro, and Dorothy E. Cook. New York: H. W. Wilson Co., 1933. Pp. xii+60. $0.60.